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The meeting of the American Forestry Association at Denver this week called out many interesting papers and discussions. One paper, read by E. M. Griffith, of the Forestry Bureau, was an excellent illustration of the importance of forestry to mining. It described the Black Hills Forest Reserve of South Dakota, which contains 1,315,000 acres, on which pine and other timber is growing. The South Dakota mines use large quantities of timber, 60,000,000 ft, yearly being a recent estimate of their requirements. With proper care and judicious cutting, this can be supplied from the reservation, and at the same time a supply for the future assured. In default of this reserve for the future the cost of mine timbers in future would be largely increased. The preservation of our forest resources is of great importance to mining as well as to other interests; and it is encouraging to learn that public opinion in the districts chiefly affected, which was at first opposed to the forest reservation system, has changed in a great degree and is now largely in favor of it.

The failure of the Amalgamated Association to secure assistance from the South Chicago men or from the Carnegie mills has weakened the strike, and much disaffection is reported among the members elsewhere. The officers of the Association are now seeking for some method of settlement, but the United States Steel Corporation does not seem anxious to reopen the negotiations. Some of the mills which were closed are being started up with non-union men, quietly and gradually. It is claimed that there are men enough to start all the plants which the company wants to operate at the present time. The weak point seems to be in the tin-plate mills,, since nearly all the skilled workers belong to the Association, and are among its most faithful members. We have always considered that the managers of the Association made a mistake in ordering the strike under existing conditions, and the present state of affairs seems to justify this view. Unless some unexpected change takes place within a few days, it looks as if the strike would fail entirely to secure its objects.

The season for cargo records on the Lakes has again been reached. Early in the present month the steamer "Isaac L. Ellwood" brought a cargo of 7,322 tons of iron ore to Ashtabula, on Lake Erie, which was claimed as the largest tonnage on record for a single vessel. Steamers towing two barges have, as we have heretofore noted, brought down 20,000 tons handled by one engine, and this will probably be exceeded. The "Ellwood's" performance for a single keel has now been surpassed by the "William Edenborn," which arrived at Conneaut on August 26th with 7,380 tons of ore.

The present season has been remarkable for the high averages of the ore cargoes. Of the arrivals this month at Conneaut practically all were cargoes of over 5,000 tons each, while one-fourth were over 6,000 tons each, and several exceeded 7,000 tons each. This shows the increasing size of the lake vessels. It also shows that the bulk of this year's heavy business has been done by the big ships of the regular lines, leaving very little chance for the smaller vessels which are on the lookout for "wild" or extra cargoes.

The old controversy over sulphurous fumes and their disposition has broken out again, this time at Ducktown in Tennessee. Recently some farmers in the neighborhood applied for an injunction to restrain the Tennessee Copper Company from operating its works, on the ground that the sulphurous fumes given out were destroying vegetation and were also injurious to health. The usual temporary order was granted, but after the full hearing in the case the court decided to refuse a permanent injunction, and permitted the company to continue operations. The complainants can, however, bring individual suits for damages. A feature in the case was the presentation to the court of a petition signed by 3,000 citizens of Polk County, protesting against the injunction. Presumably nearly all the petitioners had an interest in seeing the mines at work, as they constitute the only considerable industry of Polk County. Whether the court decided the case on the balance of benefits conferred by the mines over injuries inflicted, does not appear. It is not likely, however, that a company, which has invested a large amount of money in mines and plant, will be stopped; and the Tennessee court does not seem disposed to try it.

A recent decree of the Russian Government prohibits foreign ownership of mining claims or other property in the Pacific Maritime Province, the island of Sakhalin and other islands along the Pacific Coast of Siberia. This covers an extent of over 4,000 miles of coast, reaching from Bering Straits to Vladivostok. At various points along the coast gold deposits are already being worked by foreign capital, while the petroleum wells on the island of Sakhalin are practically a foreign enterprise. The law does not in so many words refer to the foreigner, and the whole measure seems to be dictated by reasons of coast defence,

and to be a regulation similar to that which forbids a foreigner to hold land in the neighborhood of the Russian frontiers. As special permissions have already been accorded to certain foreigners to work the mineral wealth of this region, and much foreign capital has been invested one way or another in that country without the necessary permits, a considerable amount of loss will result from the new law. As foreigners must enter all such undertakings subject to Russian law, they will have no redress for any loss they may experience from the decree. The position of affairs in China, and possible complications in the East, are doubtless the motives for the new decree. It is hard to see, however, how the conduct of mining enterprises on or near the coast could prove dangerous in case of war.

German papers report that an agreement has been reached between the Pittsburg Reduction Company on this side and the Neuhausen Company in Switzerland, by which the prices of aluminum are to be regulated and competition prevented. It is also reported that the French companies are to be included in the agreement, and that negotiations are pending to that effect. We are unable to secure either confirmation of this report, or a denial of its truth, and therefore give it for what it is worth. On its face it is probable enough. The producers of aluminum are so few in number that it would not be a difficult matter to arrange a combination which could control closely the output of the metal and its prices.

While such an arrangement may seem to be for the immediate advantage of the producers, we do not think it would result permanently to their benefit. What they need really is to cheapen the metal, make it more popular and suggest new uses for it. If the cost of aluminum could be reduced and a supply furnished to meet the demand there is no doubt that the consumption could be largely extended. That aluminum can be advantageously used in place of copper in some electrical work has been well established. With copper at the prices which have obtained for a year past, there has been a great opportunity to extend the use of aluminum; but the producers could not take advantage of this opening because they could not supply the metal in sufficient quantities. The extension of the supply and the free offering of the metal in the market would, in the end, benefit the manufacturers far more than any arrangement to maintain prices which must limit the consumption.

MINING DIVIDENDS IN AUGUST.

It is noteworthy that although only 52 companies engaged in the mineral industry of this country reported to the "Engineering and Mining Journal," the total dividends in August were $14,746,255, or 16 per cent. greater than in the previous month. This increase was due mostly to the heavy disbursements by the iron and steel and the copper companies.

Of the $3,418,544 paid by 39 metal mines, four copper properties alone reported over 73 per cent., or $2,520,275. This group was led by the Boston & Montana, in Montana, which made its third quarterly payment of $1,500,000, being at the rate of 160 per cent. per annum on a share capital of $3,750,000, thus placing it in the front rank of profitable mines. The greater part of this dividend goes into the treasury of the Amalgamated Copper Company, which is the largest stockholder. Such revenue is used by the Amalgamated Company to pay 8 per cent. annually in dividends on its outstanding capital stock of $150,058,600, since it operates no mines directly.

Of the 33 gold, silver and lead companies making disbursements, some have changed their monthly declarations to quarterly. This is especially the case where the list of stockholders is very large and the monthly payments have been small, as in the Cripple Creek District, Colorado, where mines are paying from 6 to 36 per cent. annually on capitalizations that range from $500,000 to $5,000,000. Of all the gold mines paying this month, the Consolidated Mercur, in Utah, leads with $125,000 on a $5,000,000 share capital. Next in order is the great Homestake property in the Black Hills, S. Dak., which announced its usual monthly dividend of $105,000, being at the rate of 6 per cent. per annum on a $21,000,000 capitalization. The Silver King Mine in Utah follows closely with a regular monthly payment of $100,000, equal to 40 per cent. annually on $3,000,000 capital. Daly-West, in the same State, has surprised its stockholders with an increase in its monthly dividend, from $45,000 to $52,000, putting its $3,000,000 capital on a 21 per cent. annual basis, whereas last year it yielded a little over 16 per cent. The Union Gold Mining Company, of Cripple Creek, Colo., distributed among its stockholders $25,000, or 2 per cent. per share, as the balance of the proceeds from the sale of the Orpha May property. Since its incorporation the Union Company has disbursed $420,244 in dividends, which is equal to 33.6 per cent. on a share capital of $1,250,000.

The zinc properties are not paying as well as formerly, and little is heard of the companies that were formed a few years ago with such large capitals, upon which regular monthly dividends were promised indefinitely. Several of these companies have gone into liquidation, or have been reorganized with smaller capitalizations. In August only two companies reported $22,477 in dividends.

The industrial companies are endeavoring to pay regular dividends on their common stock, especially the combinations that are so heavily capitalized. Thus the great United States Steel Corporation, after paying its first quarterly dividend of 1¾ per cent. ($8,897,510) on the issued preferred stock, has declared a 1 per cent. quarterly dividend on the common stock, to be paid in September.

In the petroleum section it is noticeable that some of the California companies have withdrawn from the dividend list and are levying assessments to meet expenses of developing their territory more profitably. Of course there are some "wild cat" companies that publish dividends broadcast, especially in large-sized advertisements in Eastern papers; but since these payments are usually made from the sale of stock and not from profits of operating an oil well, we have ignored them entirely. In all, five petroleum and natural gas companies, located in California, Pennsylvania, West Virginia and Ohio, paid $271,959 in dividends during the month.

There were three coal and coke companies that reported $191,782. The National Salt Company also paid its regular quarterly dividend of 1½ per cent. ($105,000) on its common stock, and 1¾ per cent. ($87,500) on the preferred, making the total disbursements since incorporation $1,297,500, or nearly 11 per cent., on its combined capital of $12,000,000. The Pacific Coast Borax Company in California paid its regular monthly dividend of $19,000, which is at the rate of 12 per cent. per annum on an issued capital of $1,900,000. Since organization it has distributed $914,500, or over 48 per cent., on its capital.

Already there have been some heavy quarterly dividend declarations for September, and from all accounts the closing months of this year will show very effectively the profitable operations of the mineral and metallurgical industries of the United States in 1901.

THE UTILIZATION OF WATER POWER.

A feature of recent industrial development has been the attention paid to the utilization of water power. In our early history water powers played an important part, as at Paterson, Lowell, Manchester and elsewhere, but with the development of our coal resources and the improvement of the steam engine, water power fell gradually into disuse. While those already employed continued to be utilized, few new ones were brought into use, and manufactures centered at points where cheap fuel and convenient transportation could be had. Little was heard about water power except in a few local enterprises, and in cases where extraordinary advantages were offered, as at the Great Falls of the Missouri in Montana.

The revival of interest in water powers during the past few years has naturally followed the development of electricity, and the realization of the possibilities of electric transmission of power. The fact that many water powers are located at points where the building of mills or factories would be difficult, and where transportation would be costly, had prevented any use being made of them; but when no building was needed at the fall, except a small power-house, and the factory could be located anywhere within a radius which improvements in electricity gradually increased from 10 to 100 or more miles, the case was entirely different. The introduction and development of the different forms of impact wheels also assisted in the new movement, making it possible to use small bodies of water with a high head. Streams were thus made valuable which has not previously been taken into account.

These considerations lead to activity in taking up and developing water powers in this country to an extent heretofore unknown. In Europe this has been the case even to a greater extent, on account of the generally higher cost of fuel. In Southern France, in the region bordering on the Alps, and also in Switzerland and in parts of Germany, where there are mountain streams having considerable falls, the use of water power has extended very rapidly. The larger enterprises involving the use of such rivers as the Rhone, the Rhine and the Danube are well known.

In this country the best-known water power developments besides those mentioned above and at Niagara have been in the Northwest and on the Pacific Coast, with the exception of the great plants now in operation or under construction at the Sault Ste. Marie. Many others are projected or in progress, however, and we may expect to see in a few years very few water powers which are not made to work for some purpose.

Some writers have suggested that these applications of water and the easy distribution of power may serve as a check to the accumulation of population at industrial centers, and may operate as a distributing agency which in time may make a wide difference in industrial and economic conditions. It is quite possible, but any result of this kind is too far in the future for practical consideration as yet.

The question of water power is one of special interest to the mining industry. The location of many mines in mountainous regions or in remote places, to which fuel must be transported at a high cost, makes any other or cheaper source of power important. Where water power can be had—either near the mine or transmitted from a distant power-house—it may make all the difference between a profit and a loss in operation. A notable instance is found in the recent introduction of electric power in the old mines of the Comstock Lode, where it is hoped that the introduction of electric power generated at a distance from the mines may so reduce costs as to permit the working of low grade ore bodies which have been neglected because they could not possibly be mined or treated at a profit.

It is natural that special attention should be paid to water power in California, where the high cost of fuel has always limited the growth of manufactures, and even the development of mines. A much greater quantity of work has been done in this direction within the past two or three years than is generally known. In another column we give the first part of an article which is intended to outline the progress made, and to show to what an extent the rivers and mountain streams of the State are being utilized. It is impossible to give more than a general outline in one article of this kind, and we hope to supplement the present paper hereafter by descriptions of special plants and particular applications in mines and mills. So many of these have been made that we may find the larger part of the mining plants of California operated by electricity before long. The article referred to will be found interesting by itself, and will give the reader an idea of the importance of the new development.

The future of water power cannot be foreseen fully at present. The electrical furnace has not yet reached a point of development where it can be used on a large scale in the smelting of iron, copper, lead and other metal-bearing ores. It is quite possible that this may be done, however, and the present generation may see the beginning of the transfer of our iron and steel centers from Pittsburg to such points as Niagara and Sault Ste. Marie.

Should such a movement be once begun, we may expect to see it rivaled or retarded by another, to the possibility of which we have heretofore called attention. Just as water powers have been running to waste, we are now throwing away or wasting a most important source of power. The waste gases from coke-ovens, blast-furnaces and other establishments, and the gas which might be generated from culm and coal dust now thrown away at our mines, if utilized in the generation of electric power for transmission to points where it is needed, would have a value as great, if not greater, than all our water powers. The utilization of this waste is, perhaps, the most important industrial problem now before us.

NEW PUBLICATIONS.

"Transactions of the American Ceramic Society. 1901." Edward Orton, Jr., Secretary. Columbus, Ohio; published by the Society. Pages, 232.

This volume contains the record of the third annual meeting of the American Ceramic Society, and its contents show that this comparatively young organization is full of life and vigor. The ceramic industry in this country is a very important industry and is growing rapidly. It is pleasant to see that so many of those concerned in it take an active interest in a society which ought to be productive of much benefit to them. There is room for careful study and comparison of methods in this industry, and the meetings of the Society can be the occasion of much good work. This volume of the "Proceedings" contains notes on 18 different topics connected with the industry; 13 being specially prepared papers, while the remainder are discussions on topics announced previously to the meeting. The subjects are generally of practical interest, and the volume will be useful to all who are concerned. We hope that the Society will go on as it has begun, and will enjoy the prosperous future which it deserves.

"Geological Survey of New Jersey. Report of the State Geologist for the Year 1900." John C. Smock, State Geologist. Trenton, N. J.; State Printers. Pages, 232; illustrated.

The present volume continues the long series of excellent reports which have been issued by the Geological Survey of New Jersey. Besides the details of the work given in the administrative report, it has special reports on the Mining Industry for the year, by Henry B. Kümmel; Mineralogical Notes and Explorations, by Albert H. Chester; the Portland Cement Industry, by Henry B. Kümmel; a preliminary report on the Paleozoic Formations, by Stuart Weller; Artesian Wells, by Lewis Woolman, and on Chlorine in the Natural Waters of the State, by W. G. Myers.

The Survey has done a great deal of work during the past few years having a direct bearing on the water supply of the State. A number of monographs bearing on this subject have been published, two being included in the present volume. This work is a very valuable one, being specially important in a State like New Jersey, where a very large proportion of the people live in towns and cities and the water supply question is a vital one. The New Jersey Survey has done a great deal of work having a direct practical value to the people, as well as scientific importance, and this is another instance.

The mineral production of New Jersey is confined at present to iron and zinc ores. Copper may be added in the future, as two copper mines are being developed. Both are old mines, which have been taken up and reopened after many years' idleness. The clay industry of the State, it may be added, is a large and important one. Both iron and zinc ores showed a large increase in 1900.

"Contribution a l'Etude des Alliages." By MM. H. W. Bakhuis-Roozeboom, Ad. Carnot, G. Charpy, H. le Chatelier, H. Gautier, Ed. Goutal, Guillaume F. Osmond, Roberts-Austen and Mme. Sklowdowska Curie, under direction of the Commission des Alliages of the Societé d'Encouragement pour l'Industrie Nationale. Paris, France; Chamerot & Renouard. Pages, 520; illustrated. Price (in New York), $10.

This bulky volume is the result of the work of the Committee on Alloys of the Societé d'Encouragement pour l'Industrie Nationale. As stated in the introduction, metallic alloys have always been very largely used in the arts and industries, different alloys having been found to possess special properties fitting them for different uses much better than the pure metals. In spite of their extensive uses it is only within a short time that their properties and constitution were known with any degree of accuracy. The great progress of chemistry in its application to manufacturing industry of all kinds seemed to have little effect in this direction and the old empirical methods continued to be used. Such improvements as were made were not the result of scientific methods, but of countless trials and mistakes. Much had been written on the subject of alloys in different countries, but the conclusions reached were so indefinite in some cases and so contradictory in others, that they were generally ignored by chemists, and not considered worthy of attention by manufacturers. These publications, though incomplete on many points, established some important facts—among others, the existence and the chemical formulas of compounds defined in several of the most common alloys, such as bronzes and brasses, and gave data concerning a number of methods of investigation applicable to all similar cases. They established plainly that all the properties of the alloys experimented upon, that is to say, their useful qualities for given purposes, depend directly upon two main factors:

1. The chemical constitution of the metallic bodies, namely, the proportion of allied metals, the chemical combinations which the metals form together and under varying proportions.

2. Their physical constitution, or structure, being the form and dimension of the crystals, their various kinds of agglomeration, which form a whole.

After full consideration of the subject, and bearing in mind the work already carried out by preceding investigators, the Committee on Alloys laid down that researches should be carried out on the following points:

Chemistry of Alloys.—The determination of combinations in alloys.

Mechanical Properties of Alloys.—Resistance, hardness, brittleness, malleability of alloys; way in which they are affected by cold-hammering, quenching and annealing.

Electric Properties of Alloys.—Conductivity and electromotive force of dissolution.

Fusilibility of Alloys.—Effects of impurities on metals and alloys.

Magnetic Properties of Iron Alloys.—Specially as regards the manufacture of permanent magnets.

In order to carry out this large programme, the committee secured the assistance of the technologists whose names are mentioned above. Owing to the vast field covered by the reports in question, it is not possible to do them full justice in a brief notice, and we can only give a summary of the contents.

The first paper given is on Alloys of Copper and Zinc, by M. G. Charpy, who also contributes papers on the Microscopic Study of Alloys, on the so-called Anti-friction Metals and on the Influence of Temperature on Alloys. M. H. le Chatelier has papers on Microscopic Metallography, on the General Properties of Alloys and on their Electrical Resistance. M. F. Osmond writes on Micrographic Analysis of Steel and also, in connection with Prof. Roberts-Austen, on the Structure of Metals and its Transformations. M. Guillaume contributes a study on Nickel-steel. The Chemical Constitution of Iron and Steel is treated by MM. Ad. Carnot and Ed. Goutal. Mme. Slodowska Curie furnished a paper on the Magnetic Properties of Tempered Steel. M. H. Gautier considers the Fusibility of Alloys. M. Bakhuis-Roozeboom writes of Iron and Steel and the Theory of Phases.

It may be said, in short, that all the papers are of value, as might be expected from the position and reputation of their writers. The metallurgist will find a great variety of material, while specialists in various lines will find much that will be of peculiar value to them.

There are many tables and diagrams and a large number of reproductions of photographs illustrating the microscopic study of alloys.

BOOKS RECEIVED.

In sending books for notices, will publishers, for their own sake and for that of book buyers, give the retail price? These notices do not supersede review on another page of the Journal.

"Labor Chronology of the Commonwealth of Massachusetts, 1900." By Horace G. Wadlin. Boston; State Printers. Pages, 130.

"Year Book of British Columbia, 1901." Compiled and published by R. E. Gosnell, Victoria, B. C. Pages, 216; with maps and illustrations.

"The Methods of Chemical Analysis and Foundry Chemistry." By Frank L. Crobaugh. Cleveland, Ohio; published by the Author. Pages, 80. Price, $1.50.

"Rhode Island. Annual Report of the Commissioner of Industrial Sta-

tistics." Henry E. Tiepke, Commissioner. Providence, R. I.; State Printers. Pages, 188.

"Report on the Mining Industry of Natal for the Year 1900." By C. J. Gray, Commissioner of Mines. Pietermaritzburg, Natal; Government Printers. Pages, 72; illustrated.

"Tasmania. Report on the Scamander River and St. Helen's Mineral Districts." George A. Waller, Assistant Government Geologist. Hobart, Tasmania; Government Printer. Pages, 34.

"The Mining Industry in North Carolina during 1900." Being "Economic Paper No. 4" of the North Carolina Geological Survey. By Joseph Hyde Pratt. Raleigh, N. C.; Public Printer. Pages, 40.

"Geological Survey of Canada. Annual Report (New Series). Volume XI." Prepared under charge of G. M. Dawson, Director. Ottawa, Canada; Government Printers. Pages, 876; with maps and illustrations.

"The Journal of the Iron and Steel Institute," Volume LIX; No. 1 for 1901. Edited by Bennett H. Brough, Secretary. Published for the Institute by E. & F. N. Spon, London; Spon & Chamberlain, New York. Pages, 620; illustrated.

Doctor Jack Pot Consolidated Mining Company's Works, Cripple Creek, Colo.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials only will be published when so requested.

Letters should be addressed to the MANAGING EDITOR.

We do not hold ourselves responsible for the opinions expressed by correspondents.

By-Product Coke Ovens.

Sir: The articles over the signature of Mr. W. G. Irwin which appeared in the "Journal" for August 10th and in a previous issue, are in error in one particular, in that they refer to the coke ovens built at Dunbar as being for the Cambria Steel Company. They were built by the Semet-Solvay Company, of Syracuse, N. Y., for the Dunbar Furnace Company. The 10 ovens at Halifax, N. S., which he speaks of as being changed from the bee-hive system to a modified type of the Semet-Solvay system were Slocum retort ovens, built in accordance with patents issued to H. W. Slocum, of Pittsburg, Pa., and were in reality a modification of the Semet-Solvay and Huessener types. They were unsuccessful, and were replaced by 10 Semet-Solvay ovens, built on the same foundations. The writer is in a position to know of these points, as he was the engineer on both these plants.

New York, Aug. 23, 1901. C. G. Atwater.

Some Old Southern Mining Companies.

Sir: I have in my possession shares of the Consolidated Mining Company of North Carolina, issued Baltimore, 1862; the Guilford Copper and Gold Company, issued Baltimore, 1866; Maryland Copper Company of Carroll and Baltimore Counties, issued Baltimore, 1864.

Are these shares of any value? Do the companies exist yet? Perhaps you or some of your readers can enlighten me. S. R.

New York, Aug. 23, 1901.

[We do not know that any of these companies is now in existence. None of them has been working for a long time. Perhaps some of our readers can give us some information.—Editor E. & M. J.]

GASOLINE VESSELS FOR THE PACIFIC.—England has annexed another island in the Southern Seas. Niue or Savage Island is now a British possession and will be governed from New Zealand, as will also Raratonga or Cook Group. In order to have regular communication with Auckland, N. Z., and thus with the outside world by the way of the San Francisco mail service, the Governor of the new territory had a handsome schooner built at Auckland and sent to the Union Gas Engine Company, of San Francisco, for an 85 H. P. engine to put in the vessel. The schooner has now been completed and will be called "Countess of Ranfurley," after the wife of the Governor of New Zealand. On the first trip to the Cook Group she will take a group of officials who will initiate the new system of government under the British flag. The government is to be by native chiefs under a resident agent of the New Zealand Government.

PAN-AMERICAN SEARCHLIGHT SIGNALS TO TORONTO.—Signals from 30-in. searchlight, on the Electric Tower of the Pan-American Exposition, were sent to Niagara Falls, July 25th, by Prof. Geo. F. Sever, superintendent of the Electrical Exhibits, in the presence of the electrical jury, thus demonstrating the feasibility of this method of signalling at night. Since that time searchlight signals have been sent from Buffalo to Toronto, a disance of 58 miles, through arrangements completed by Prof. Sever in co-operation with Mr. Wm. S. Aldrich, consulting electrical engineer, of Toronto. The first trial was made 9:10 p.m., August 9th, with clouds over Toronto. The local illumination of the overhead sky by the electric arc lights in the streets of Toronto effectually prevented any discrimination being made between the local and the Buffalo illumination of th clouds. The second trial was made, 9:50 to 10:15 p.m., August 13th, with a perfectly clear atmosphere. Owing to the smoke settling down over the city, no signals could be discerned from the top of the Municipal Hall tower, Toronto. This was the prearranged objective point for both experiments.

Special long-distance communication was arranged between the top of the tower and the Electric Tower at the Pan-American, through the courtesy of the Bell Telephone Company, represented by Mr. Dunstan, of Toronto, so that every detail of the experiment could be followed. The special instructions were to depress the searchlight to the lake horizon, bearing on the Municipal Hall tower, Toronto; then, to sweep the horizon at a definite angle, to the right and left of this bearing, and later to elevate and depress the light on the original bearing. All of these signals were very clearly discerned during the second trial by Mr. C. H. Rust, city engineer of Toronto, with party, located on Center Island, 2 miles off shore from the city.

THE PAN-AMERICAN EXPOSITION AT BUFFALO.—X. THE COLORADO EXHIBIT.

Written for the Engineering and Mining Journal by Mrs. Harriet Connor Brown.

Colorado is one of the richest ore-bearing States of the Union, but had it not been for the enterprise of the Woods Investment Company, of Victor, that State would have had no representation in the Mines Building at the Pan-American Exposition. An exhibit of American minerals without specimens from Colorado and California would be an anomaly that might have been presented at Buffalo, had it not been for the energy of a few private citizens of those two commonwealths.

The Colorado ores occupy a prominent place in the Mines Building, just inside the main entrance. The exhibit is in charge of Mr. J. M. Allen, who usually represents the Woods Investment Company on the Colorado Springs Mining Stock Exchange. Conspicuous above the specimens cases are a picture of the new Antlers Hotel at Colorado Springs and some drawings made by Charles J. Moore, a mining engineer of Colorado. They represent a longitudinal section of the Cripple Creek Mining District formation and the gold belt of the Leadville District.

There is one case in the exhibit which has been contributed by the State Bureau of Mines. It contains some valuable specimens of minerals mined throughout the State. Among them might be mentioned a specimen of calcite ore from Thomas Walsh's mine, the Camp Bird of Ouray, which is rich in gold and silver. A specimen of ore worth $28,000 a ton is shown from Stratton's Independence Mine of Cripple Creek. Samples of ore from the Anna Lee, a mine belonging to the Portland Company of Cripple Creek, are shown which run 8 oz. of gold to the ton. A handsome specimen of gold ore from the Christmas Mine runs $500 in gold to the ton. A large specimen from the Iowa Mine of Silverton represents ore that is 40 per cent. lead and runs 7 oz. gold and 60 oz. silver. Davis & Downer, owners of the Bimetallic Mine of Ouray County, have specimens in the exhibit that run 400 oz. gold and 800 oz. silver to the ton. Samples from the Maid of Erin have a unique interest, as they represent ore that is 50 per cent. copper and contains 20 oz. of gold and 1,400 oz. of silver in every ton. A piece of wolframite from Gladstone, San Juan County, is a rare specimen in the State's collection worthy of special mention.

The most recent addition to the exhibit is a native silver nugget from the Mollie Gibson Mine of Aspen. It is the largest silver nugget known, having a weight of 375 lbs. As it is .930 fine, its fineness is superior to that of an American silver dollar, which is only .900.

The bulk of the Colorado exhibit represents properties in which the Woods Investment Company has an interest. This corporation, although only founded in 1893, and then in a very humble way, now controls about 25 mining companies. The president of the company is Warren Woods, and his two sons, A. M. Woods and H. E. Woods, are treasurer and manager. The company now has four dividend-paying mines—Gold Coin, Consolidated, Doctor-Jack Pot, and New Zealand. Two of its producing mines, Mabel M. and Jack Pot, are expected to declare dividends also this year. The combined gold output of its mines is said to be the largest controlled by one corporation in Colorado or the West.

Besides developing mines, the Woods Investment Company is engaged in various industries allied to that of mining. The Pike's Peak Power Company is constructing a plant for the transmission of power and light, generated hydraulically, that promises to be the largest lighting plant west of the Mississippi, when completed. The plant is located on Beaver Creek at the foot of Pike's Peak. It is to operate all the properties of the Woods Investment Company, including transportation line, mill, mines, etc., and to furnish light to the little towns of Victor, Goldfield, Altman, Cameron and Gillett. The reservoir, which is 7 miles from Victor, covers 147 acres, and its contents of 233,286,000 cu. ft. of water are conserved by the first steel-faced granite dam ever built.

The United Mines Transportation Company is another enterprise in which the same people are interested. It comprehends a tunnel through which ore and waste under ground may be conveyed from the various mines to the mill of the Economic Gold Extraction Company. About a mile of this tunnel is finished out of the 4 miles contemplated.

The most striking feature of the exhibit is a fac simile in 6 gold bricks of one month's run at the Economic Mill. In the small compass of these 6 bricks value to the amount of $134,000 is contained. This mill, which has a capital of $1,000,000, has only been in operation a year and a half. It has one of the largest laboratories in the State, turning out about 10,000 assays every month. Its roasters, coolers, and filters are of the most modern design, some of them being operated by fuel oil.

COLORADO EXHIBIT, MINES BUILDING, PAN-AMERICAN EXPOSITION.

The most characteristic ore of Colorado is calaverite, telluride of gold. It is frequently found in the form of rusty gold in quartz, granite, or phonolite. Gold in this form is derived from calaverite, the tellurium in the mineral having been removed by atmospheric oxidation, leaving the gold nearly pure. From the Gold Coin Mine, the most important of the Woods properties, specimens of this free gold in quartz are shown, with others of free gold in altered granite. The vein in this Gold Coin Mine is quartz in granite. The main shaft is 1,100 ft. deep, and over 3 miles of levels and drifts have been opened up. The mine is lighted by electricity, equipped with a pumping plant, diamond drilling apparatus, an air compressor, and electric signal system. Pay ore is taken from six different veins.

The Consolidated Gold Mines Company of Cripple Creek is represented by some talc bricks that run $50 gold to the ton. Specimens of ore from the Wild Horse Mine are shown which have a value of $200 in gold to the ton. The vein in this mine is talc and quartz. It lies between walls of granite and schist and is from 5 to 20 ft. in width. The average ore runs $30 in gold to the ton. In the four years that have elapsed since gold was discovered there, the mine has produced $875,000. Ore is produced more cheaply here than at any point in the district. The main shaft has been sunk to 750 ft., but it is being lowered now to 970 ft., so that it can connect with the United Mines Tunnel and its ore be conveyed by trolley to the Economic Mill.

The New Zealand Mining Company sends to the exhibit some fine specimens of tellurides. This mine has four paying veins which are mostly phonolite and andesitic breccia. The main shaft is only 300

ft. deep, but the mine has produced $400,000, since ore was first discovered there in 1895.

Specimens of calaverite crystals with gangue of quartz and fluoride are exhibited from the Doctor-Jack Pot Mine. They represent ore worth from $1,500 to $5,000 a ton in gold. The vein in this mine is fluorine quartz, containing high values in sylvanite. Since the discovery of ore in 1893, the mine has had an output of $2,500,000.

Fine specimens of ore are shown from the Mabel M., one of the coming dividend-payers of the company. This ore is quartz and sylvanite, strongly resembling that of the Gold Coin mine. Some of the specimens show fluorites and tellurides of gold filling openings in the breccia. The Mabel M., which comprises some 18 acres upon Beacon Hill, is now producing from three veins.

From the Damon Mine specimens are shown of ore worth $20,000 to the ton, taken out at a depth of 200 ft. This mine has a reputation for high-grade ore.

The Battle Mountain Consolidated Gold Mining Company exhibits some specimens of gold-bearing fluorite worth $80 a ton. Iron pyrites in phonolite exhibited by the Cameron Company are worth about $25 a ton.

The Robinson-Victor Mines Company contributes specimens of ore from the Mollie Kathleen in the Cripple Creek District and ore from the Robinson Mine near Leadville. The latter contains galena, argentite, chalcopyrite, gold, silver, lead, zinc, copper, antimony, arsenic and iron.

In front of the Woods booth is a large placard on which are set forth some statistics relative to the production of gold in the Cripple Creek and Leadville districts. They were compiled by Charles J. Moore, who made the drawings of these same districts. They show that the total production of gold in the Cripple Creek District, during the last 11 years, including the estimated output of $25,000,000 for 1901, has been $118,753,467. During last year 4,500 men were employed, 100 mines were worked, 10 mills and 5 smelters were in operation. The average gross value of the ore produced was $45 a ton.

The Leadville District's output in gold, silver, lead, copper, manganese, zinc, and bismuth for 1899 was $9,672,375, for 1900, $12,900,651, making a total of $275,125,651 during the last 23 years. During 1900 there were 6,440 men employed, 75 mines were worked, and 11 smelters supplied with ore. The average gross value of the ore produced in the last four years was $16.18 in 1897; $15.47 in 1898; $19.95 in 1899, and $15.77 in 1900.

MINING IN RHODESIA.

Written for the Engineering and Mining Journal by Cyril E. Parsons.

Under this heading is included the country bounded by the Zambesi on the north and the Transvaal and Bechuanaland on the south; that is, Southern Rhodesia, having an area of 130,000 square miles. In 1890 Mashonaland was occupied peaceably, and administered by the British South Africa Company, incorporated by royal charter in 1899. Salisbury, the capital, and the townships of Victoria and Umtali were established.

In 1890, '91 and '92 the numerous ancient gold workings scattered through the country were being located and prospected. In 1893 mines were closed owing to the war with the Matabeles, which ended in their downfall. During 1894 and 1895 mining work went ahead in both provinces. At Bulawayo a new town sprung up. At the end of 1895 the Jameson raid upset everything.

Again, the year 1896 saw the rebellion of both Matabele and Mashona natives, rinderpest cattle disease broke out, clearing the country of transport oxen and breeding cattle; one-tenth of the white population were murdered, many farmers were ruined, and Salisbury, the capital, was cut off from the outside world.

Work commenced once more in 1897, and by March 31st, 1898, the total output of the country was 6,242 oz. Bulawayo, the capital of Matabeleland, was connected with Cape Town by rail on November 4th, 1897, the distance being 1,360 miles. Salisbury, the capital of Rhodesia, situated about 300 miles northeast of Bulawayo, opened its railroad with the East Coast, 379 miles away, on May 4th, 1899. On October, 1899, the Boer war commenced; fortunately it did not entirely stop operations in Rhodesian mines, though they have naturally suffered from lack of transport.

The present output is roughly 14,500 oz. gold per month. Altogether, 294 stamps have been erected, out of which about 104 are idle, principally from lack of labor. About 300 stamps are ordered or being erected in addition to the 294 mentioned. The total gold output to the end of May, 1901, was 231,682 oz.

Taking the year ending March 31st, 1901, the average duty per stamp, taking 26 as the average number of working days per month, works out 4.5 tons (of 2,000 lbs.) per stamp per day. The average yield for that year is 0.60 oz. gold per ton of 2,000 lbs. Mashonaland, the older province, was somewhat neglected after 1893, while in Matabeleland work went on in every direction, due principally to the proximity and final completion of the railway from Cape Town.

The geology of the country has been imperfectly studied. The largest area is occupied by the granites, which would appear to underlie other formations. Metamorphic rocks appear here and there, consisting of altered slates, limestone, schists, steatite and gneiss. Intrusions of diorite, peridote and trap occur frequently. In the northwest and southeast corners of Southern Rhodesia there are large areas of sandstone overlying the older rocks. It is in some of the lower beds of this sandstone series that beds of promising coal have been discovered. In the northwest the sandstones have been overlaid in parts by a protecting bed of trap rock.

The gold-fields are situated among and in the vicinity of the metamorphic rocks. Ancient workings play an important part in the early stages of mining. Almost every deposit of value has been worked in an unsystematic fashion by some early people, probably natives, but they left very scanty records behind them. The shape and size of these ancient mine workings enable one to form a good approximation of the value of the deposit. The best mines of the country are associated with the largest old workings.

Though the majority of the deposits are strictly quartz veins or reefs, others exist of a different character. In one instance we have a dioritic dike rich in gold, which is likely to become an important gold mine. In another case a large deposit of auriferous schistose rock, intersected by leaders and occurrences of quartz generally parallel to the foliation, is being worked on a large scale. Stockworks, segregations and contact deposits are not uncommon; nor are auriferous steatite, etc.

The principal setbacks to the industry are native labor and fuel. In the first case the position is very serious. Kaffirs will not usually work for long periods, and legislation cannot be expected to alter the habits of generations. They are indifferent workmen, and the supply is uncertain and insufficient. Strenuous efforts are being made to introduce a regular supply from other parts of the world.

The fuel supply is native timber growing around the mines, and it is rapidly becoming scarce and expensive; but by opening up the coal mines the difficulty will be overcome.

Legislation far from fulfills the ordinary requirements. A new arrival of full age is entitled to a mining license by the payment of 1s., enabling him to peg out a block of 10 contiguous claims, each claim measuring 150 ft. long by 600 ft. wide, forming a rectangular block 1,500 ft. long by 600 ft. wide (Cape measurement). More licenses can be procured by the payment of £3 sterling for each. The owner of each block of claims must execute 30 ft. of development work within four months from the date of registration and 60 ft. during each succeeding year. The British South Africa Company claims 50 per cent. of the vendor's interest on flotation, but as a rule the company makes terms with the owners and does not claim the full figure. If the ground is worked or floated with the object of being worked at a profit, 5s. per claim per month is charged.

The vein, as in the United States, can be followed along its dip in all its spurs and angles. No compulsory survey is necessary, consequently much of the ground pegged in the early days has been lost and litigation is fostered by the many disputes which arise.

The gold returns are made in bullion, which works out at about .890 fine.

Apart from gold, coal-fields are being developed, and extensive deposits have been proved to exist of excellent quality at Wankie, near the Zambesi River. With this coal it is proposed to supply the local mines and the Kimberly Diamond mines.

RECENT DECISIONS AFFECTING THE MINING INDUSTRY.

Specially Reported for the Engineering and Mining Journal.

COURT OF EQUITY GRANTS RELIEF AGAINST FORFEITURES.—The forfeiture clause in a gas and oil lease, under which a valuable estate vested in the lessee in so far as the rentals are concerned, made payable in gas, oil and money, is in the nature of a penalty to secure such rentals, against which a court of equity will grant relief when compensation for such rentals can be fully made, and great loss wholly disproportionate to the injury occasioned by the breach of the contract would otherwise result to the lessee negligently, but not fraudulently in default.—South Penn Oil Company vs. Edgell (Supreme Court of West Virginia); 37 Southeastern Reporter, 596.

NECESSITY OF SETTING UP CLAIM PROPERLY.—Where a bill alleged that the partner of the one commencing suit located a mining claim, but failed to file the location, and surrendered possession to other parties under a fraudulent agreement with them, but did not allege that such possession was not taken until after 90 days allowed for filing had expired, he was not entitled to have such parties declared constructive trustees of same for his use, if the possession was taken before the expiration of such period, as such parties could acquire no rights in the location as against the one bringing the suit.—Lockhart vs. Leeds (63 Pacific Reporter, 48); Supreme Court New Mexico.

EXTRA-LATERAL RIGHTS.—A patent for a mining location granted 1,589.94 ft. of the lode through its entire depth, provided that its extra-lateral rights should be confined to that part of the lode which lay between the vertical planes drawn downward through the ends of the survey at the surface. The survey of the surface had end lines diverging in the directions of the dip of the vein. It was held that he was entitled to that part of the vein at any depth that lay between the vertical planes drawn at right angles to the general course of the vein on the surface.—Argonaut Mining Company vs. Kennedy Mining & Milling Company (63 Pacific Reporter, 148); Supreme Court of California.

BURDEN OF PROOF IN MINING CLAIM CONTEST.—Where in an action to determine the ownership of a mining claim, the claimant relies on a forfeiture for non-performance of work on the claim by another, and shows that no work was done within the limits of the claim for two successive years, he establishes a prima facie case of forfeiture, casting on the other party claiming the performance of work outside the claim for the benefit of same, the burden of showing the benefit and performance of such labor, and hence the other may show that it had not such beneficial tendency. In such an action, the fact that the original locator for a patent failed to prove citizenship cannot entitle the adverse claimant to judgment, since the absence of proof of citizenship would authorize the refusal of a judgment for the original claimant, but would not authorize a judgment for the adverse claimant.—Sherlock vs. Leighton (63 Pacific Reporter, 580); Supreme Court of Wyoming.

A PLACER COUNTY, CALIFORNIA, MILL.

The Washington Quartz Gold Mining Company at Forest Hill, Cal., has finished the construction of a modern 40-ton capacity 10-stamp mill. The entire machinery was purchased from the Union Iron Works, of San Francisco, and is of extra heavy pattern throughout. The construction of the plant and surface improvements have been managed by the company with the assistant supervision of W. S. May, of Grass Valley, Cal. Steam and water power plants are both provided, the latter to be used during the water season.

The company is a close corporation under the control of Boston and Chicago capital, Mr. A. W. Hutchins being vice-president.

The mine has been under extensive and continuous development for the past year and a half, and promises very soon to be an important mining property. At present 34 men are employed. Mr. H. T. Bell, of Forest Hill, is superintendent, and to him we are indebted for the accompanying view of the mill, and the brief description given.

THE COST OF PRODUCING PIG IRON IN THE UNITED STATES.

Written for the Engineering and Mining Journal by Wm. B. Phillips.

An exact statement of the cost of producing almost any article that comes into commerce in a large way is difficult. There are so many variants in the problem that what is true to-day may not be true to-morrow. In the same district and with the same establishment costs of production vary very rapidly. If it were possible to secure all the data bearing on the subject from any one plant—and it may be remarked that this is not possible—the figures would relate to a certain specified set of conditions which were themselves undergoing rapid changes. All this is true of any manufacturing enterprise and is especially true of the manufacture of pig iron. There is, perhaps, no single article of commerce that is made under so many diverse conditions as pig iron. It is not possible to average the costs over the entire country, and for the reason that it is not possible to reduce them to a common denominator. All that can be done is to state in general terms the costs prevailing during a certain period, in a certain region and applicable to a certain kind of iron produced at the rate of so many tons a day. It is manifestly unjust to compare the cost of making bessemer iron in Eastern Ohio and Western Pennsylvania with the cost of making foundry iron in Alabama, or even with the cost of making bessemer iron in Colorado. There is no common ground. Mr. E. Phillips ("Engineering Magazine," May, 1901), states that the approximate cost of making bessemer pig in the United States is $7.26, but fails to state the part of the country to which his figures apply. That the average cost of making the bessemer pig in this country is as low as $7.26 no one at all familiar with the subject could allow. But the estimate goes out and is accepted at its face value.

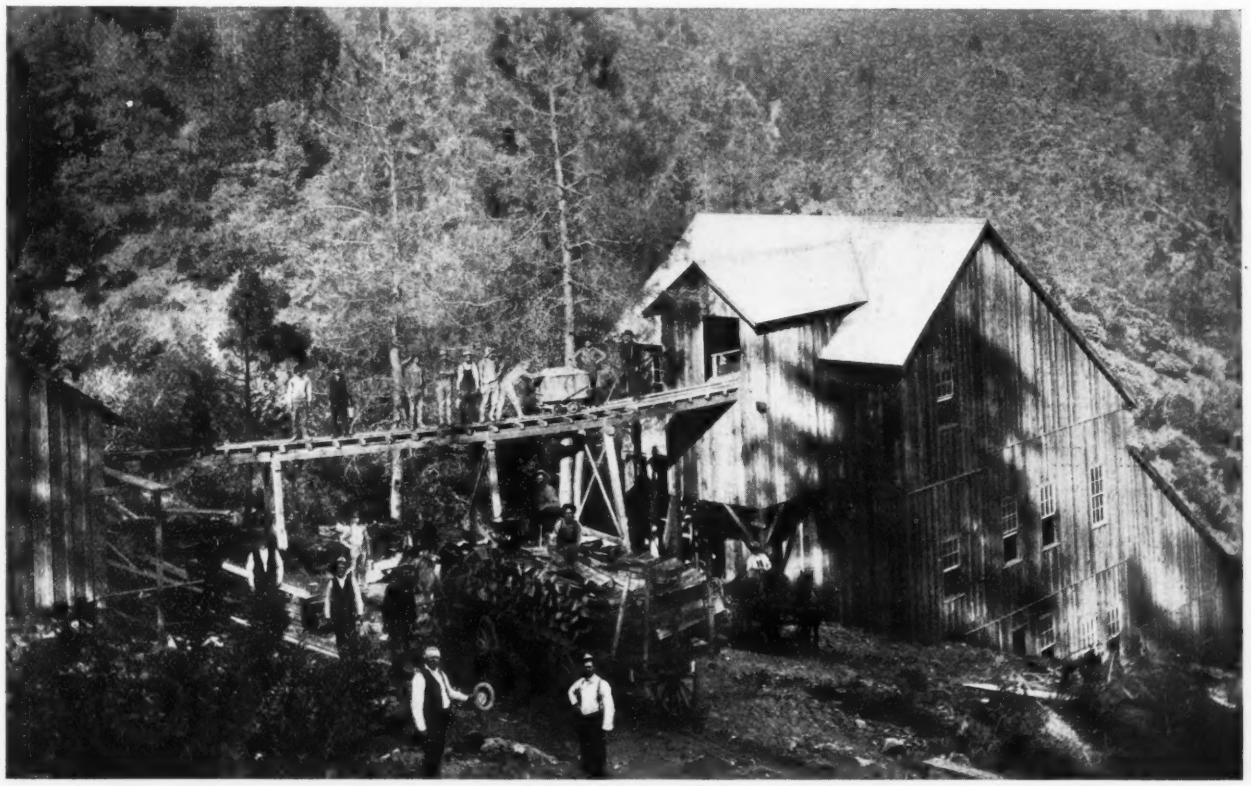
In an otherwise excellent and instructive article Mr. Phillips has drawn attention to conditions which really do not exist, and his conclusions, in so far as they rest upon these estimates, are erroneous. The United States occupies a peculiar position in the iron trade, owing to the extremely diverse conditions surrounding the manufacture of pig iron, and statements bearing upon cost accounts must be accepted with more than the proverbial grain of salt unless uncommonly well sustained.

In "The Mineral Industry," Volume I, 1893, is given a tabulated statement of the items entering into the cost of making pig-iron at the furnaces of the Thomas Iron Company, in Eastern Pennsylvania, for each six months from June, 1855, to June, 1892. This table is the most complete record that has been published up to 1892 and for a detailed study reference should be made to the original article.

A brief summary of the items there set forth is as follows:

Materials required per ton of pig iron produced.	Maximum. Amount.	Maximum. Date. Half-year ending	Minimum. Amount.	Minimum. Date. Half-year ending
Coal	2 tons, 968 lbs.	Dec., 1855.	1 ton, 712 lbs.	June, 1892.
Ore	2 tons, 1,353 lbs.	June, 1856.	1 ton, 1,843 lbs.	June, 1890.
Limestone	1 ton, 1,427 lbs.	Dec., 1864.	1,474 lbs.	June, 1890.
Cost, fuel, per ton	$7.03	Dec., 1864.	$2.36	Dec., 1861.
Cost, fuel, per ton of pig iron produced	16.51	Dec., 1864.	3.48	June, 1892.
Cost, ore, per ton	6.22	Dec., 1872.	2.39	June, 1862.
Cost, ore, per ton of pig iron produced	14.51	Dec., 1872.	5.34	June, 1862.
Cost, limestone, per ton	0.82	Dec., 1869.	0.30	Dec., 1860.
Cost, limestone, per ton of pig iron produced	1.30	June, 1865. Dec., 1869.	0.35	June, 1890, 1891, 1892.
Labor and repairs per ton pig iron produced	8.06	June, 1871.	2.04	Dec., 1880.
Produc. per day in tons per furnace (approx.)	200	1855.	400	1892.
Total cost per ton	$36.07	Dec., 1864.	$12.94	June, 1892.

The best thing, in fact the only thing, that can be done is to enquire into the cost of making a certain kind of iron, in a certain locality, during a certain time and under a certain daily output. The plan is good, but the means for carrying it into effect are not to hand. Cost accounts are guarded with pious care and questions relating to them are accorded not even a hearing. There are, however, some facts upon which a statement may be based, and yet even these refer to a time now somewhat remote.



WASHINGTON QUARTZ GOLD MINING COMPANY'S WORKS, FOREST HILL, CAL.

The comparative cost of producing pig iron of nearly similar grade and chemical composition in various districts of the United States is given by John Birkinbine in the "Annual Report" of the Secretary of Internal Affairs of the Commonwealth of Pennsylvania, Volume XXII, Part III, 1894. The summarized statement of costs is:

Cost of Making Pig Iron in the United States by Districts.

Item.	Southern. Lbs.		West. Penna. (c) Lbs.		East. Pa. Mill iron.	West. Pa. (e) Bess. pig.
Coke	3,004	$2.75	2,260	$1.65	$3.40	$6.25
Ore	5,495	2.66	4,032	4.25	4.80	1.70
Lime	934	.13	496	.38	.30	.50
Labor at furnace	9,553	5.54	6,798	6.28	8.50	8.45
	.....	.81	.....	.85	.80	.85
Supplies	.....	.37	.....	.36	.30	.40
Net cost (f)	.....	(a) 6.72	.....	(b) 7.49	....	9.70
	.....	7.20	.....	(d) 7.49	9.60	....

(a) does not include royalties for ore or coal, nor allowance for repairs to coke ovens. (b) includes royalty for ore and coke and repairs to ovens. (c) the cost at blast furnaces in eastern Ohio and western Virginia approximates closely the figures given for western Pennsylvania furnaces. (d) One-third net cost was represented by railroad freights. (e) Foundry iron from local ores and rich Lake Superior ores, using mixed anthracite and coke fuel. (f) Net cost is obtained by equating conditions as much as possible for the two districts.

These figures are a general guide to the relative advantages of the different localities at the time they were prepared and are not figures of estimated total cost, as they do not include allowance for administration, renewals, general repairs, interest, depreciation and losses.

A few years ago the writer studied very carefully the cost of making foundry and other grades of coke iron in the Birmingham District, in Alabama. The results were published in the second edition of his "Iron

ALABAMA COKE FURNACE PRACTICE.

Delivery prices per ton of 2,240 lbs.: Hard ore, 67.5c.; Soft ore, 55.4c.; Brown ore, $1.00; Flux, 63.4c.; Coke, $1.75.
Results grouped in runs of same furnace.

	Year.	Number of charges.	Per cent of Ore Burden. Hard.	Soft Red.	Brown.	Per cent of Total Burden. Hard.	Soft.	Brown.	Flux.	Fuel.	Iron Made. Per charge.	Total.	Percentage of foundry grades.*	Consumption, Tons per tons of Pig Iron. Ore.	Flux.	Fuel.	Total.	Cost, per Ton of Pig Iron. Ore.	Flux.	Fuel.	Total.
Hard and Soft Ores. Burden, hard ore proportion from 48.2% to 100%.	1895	2,954	50.9	49.1	....	27.7	26.7	....	15.5	30.1	1.66	4,912	99.2	2.39	0.68	1.34	4.41	$1.47	$0.44	$2.31	$4.22
	1895	2,870	50.9	49.1	....	28.1	27.1	....	15.8	29.0	1.72	4,943	96.2	2.51	0.72	1.32	4.55	1.55	0.45	2.31	4.31
	1895	3,029	52.3	47.7	....	27.2	24.8	....	16.0	32.0	1.62	4,932	90.2	2.27	0.69	1.39	4.35	1.48	0.44	2.44	4.36
	Average	2,951	51.3	48.6	....	27.7	26.2	....	15.7	30.4	1.67	4,929	95.2	2.39	0.69	1.35	4.43	1.50	0.44	2.35	4.29
	1895	2,742	51.1	48.9	....	26.5	25.3	....	15.8	32.4	1.47	4,037	88.6	2.42	0.73	1.52	4.67	1.48	0.45	2.66	4.59
	1895	2,708	50.9	49.1	....	27.0	26.1	....	15.6	31.3	1.54	4,155	68.3	2.54	0.77	1.47	4.78	1.55	0.48	2.58	4.61
	1895	3,003	52.3	47.7	....	26.2	24.1	....	16.6	33.1	1.49	4,495	87.0	2.32	0.73	1.52	4.57	1.43	0.46	2.66	4.55
	1895	2,872	48.2	51.8	....	24.0	26.3	....	17.2	32.5	1.45	4,157	83.9	2.26	0.79	1.57	4.62	1.60	0.49	2.67	4.76
	Average	2,831	50.6	49.4	....	25.9	25.4	....	16.3	32.4	1.49	4,211	81.9	2.39	0.75	1.52	4.66	1.51	0.47	2.64	4.62
	1890	1,508	65.9	34.1	....	36.6	19.0	....	10.3	34.1	1.97	2,970	95.7	2.48	0.45	1.52	4.45	1.58	0.28	2.67	4.53
	1890	1,343	65.9	34.1	....	36.4	18.7	....	10.0	34.9	1.95	2,615	87.8	2.51	0.46	1.60	4.57	1.58	0.29	2.79	4.66
	1890	1,512	65.9	34.1	....	36.9	19.1	....	9.7	34.3	1.92	2,898	93.2	2.57	0.44	1.58	4.59	1.62	0.28	2.75	4.65
	Average	1,454	65.9	34.1	....	36.6	18.9	....	10.0	34.5	1.95	2,828	92.2	2.52	0.45	1.57	4.54	1.59	0.28	2.74	4.61
	1893	1,995	91.5	8.5	....	57.3	5.2	....	2.3	35.2	1.96	3,901	83.9	2.78	0.10	1.56	4.44	1.82	0.13	2.76	4.71
	1893	1,805	80.7	19.23	....	47.4	11.2	....	5.7	35.7	1.83	3,315	93.8	2.68	0.26	1.63	4.57	1.93	0.16	2.89	4.99
	1893	1,576	100.	....	....	63.8	....	....	....	36.2	1.91	3,005	59.4	2.87	....	1.63	4.50	1.94	....	2.85	4.79
	Average	1,792	90.7	9.3	....	56.2	5.5	....	2.6	35.6	1.90	3,407	79.0	2.78	0.12	1.61	4.51	1.89	0.10	2.83	4.82
Hard, Soft and Brown Ores. Burden, Brown ore proportion 1.3% to 100%.	1894	2,687	33.4	65.3	1.3	17.0	33.1	0.6	16.9	32.4	1.69	4,568	95.8	2.22	0.73	1.44	4.39	1.33	0.47	2.50	4.30
	1895	2,945	47.1	51.5	1.4	24.4	26.7	0.6	16.8	31.5	1.57	4,635	97.9	2.37	0.75	1.45	4.57	1.47	0.48	2.54	4.49
	1894	2,690	48.5	50.0	1.5	26.5	27.3	0.7	15.9	29.6	1.79	4,818	99.7	2.29	0.64	1.24	4.17	1.41	0.39	2.17	3.97
	1895	2,962	46.6	50.0	3.4	23.2	24.9	1.6	18.7	31.6	1.69	5,022	97.6	2.11	0.78	1.34	4.23	1.32	0.49	2.35	4.16
	1895	2,957	48.4	46.8	4.8	25.1	24.3	2.5	16.6	31.5	1.65	4,886	99.5	2.23	0.72	1.37	4.32	1.48	0.45	2.37	4.30
	1895	2,833	42.4	50.8	6.8	22.1	26.5	3.7	17.1	30.6	1.64	4,659	99.2	2.35	0.77	1.38	4.50	1.49	0.49	2.42	4.40
	1895	2,847	42.1	50.7	7.2	21.8	26.3	3.7	17.6	30.6	1.63	4,678	94.5	2.34	0.78	1.38	4.50	1.49	0.51	2.41	4.41
	Average	2,833	44.1	52.1	3.8	22.9	27.0	1.9	17.1	32.1	1.67	4,745	97.2	2.28	0.74	1.38	4.40	1.43	0.47	2.39	4.29
	1890	1,635	57.11	42.5	0.4	31.9	23.8	0.3	10.6	33.4	2.01	3,291	83.1	2.48	0.47	1.48	4.43	1.54	0.29	2.59	4.42
	1890	1,819	53.7	34.2	12.1	28.5	18.2	6.3	10.6	36.4	1.88	3,418	92.0	2.51	0.49	1.72	4.72	1.69	0.30	3.01	5.00
	1890	1,712	70.3	9.3	20.4	40.0	5.2	11.6	6.4	36.8	1.88	3,209	86.9	2.55	0.29	1.64	4.45	1.88	0.18	2.98	4.96
	1890	1,609	58.5	20.4	21.1	32.3	11.2	11.7	8.4	36.4	1.89	3,011	90.0	2.50	0.44	1.52	4.49	1.80	0.22	2.79	4.81
	1890	1,994	53.7	19.2	27.1	29.9	10.7	15.1	9.7	34.6	2.01	3,990	89.2	2.40	0.41	1.49	4.30	1.77	0.26	2.58	4.61
	Average	1,754	58.6	25.1	16.3	32.5	13.8	9.0	9.1	35.6	1.93	3,386	88.2	2.49	0.42	1.56	4.47	1.73	0.25	2.77	4.75
	1895	1,904	17.3	35.1	47.6	8.9	18.2	24.6	19.2	29.1	1.34	2,569	92.8	2.37	0.88	1.32	4.57	1.86	0.55	2.32	4.73
	1894	1,900	18.3	33.3	48.4	10.0	17.6	25.3	18.6	28.5	1.29	2,456	99.9	2.45	0.87	1.35	4.68	1.91	0.55	2.38	4.84
	1895	1,983	21.0	28.1	50.9	10.5	14.0	25.3	20.0	30.2	1.37	2,708	99.2	2.16	0.86	1.31	4.33	1.73	0.54	2.30	4.57
	1895	1,909	23.8	24.8	51.4	12.4	13.0	26.8	18.2	29.6	1.23	2,369	92.1	2.50	0.87	1.41	4.78	2.04	0.55	2.48	5.07
	1895	2,076	16.0	17.7	66.3	8.8	9.8	36.7	18.1	26.6	1.37	2,844	98.1	2.68	0.88	1.28	4.84	2.33	0.55	2.24	5.12
	1895	1,802	....	....	100.	....	....	52.9	20.4	26.7	1.53	2,766	99.1	2.31	0.89	1.16	4.36	2.31	0.56	2.04	4.91
	Average	1,929	16.1	23.1	60.8	8.4	12.1	31.9	19.1	28.5	1.35	2,619	96.9	2.41	0.87	1.30	4.58	2.03	0.55	2.29	4.87
	1897	.(b)	....	....	100.	....	....	58.3	16.1	25.6	....	6,696	100.	2.01	0.55	0.87	3.43	2.01	0.27	2.00	4.28
	Alabama Charcoal Practice.																				
	1893	.(b)	....	....	....	....	....	58.2	9.8	32.0	....	1,712	....	1.84	0.31	1.00	....	1.78	0.26	6.55	8.59
	1894	.(b)	....	....	....	....	....	60.0	10.6	29.4	....	1,553	....	1.95	0.34	0.97	....	1.72	0.26	5.73	7.71
	1895	.(b)	....	....	....	....	....	59.6	10.9	29.5	....	1,789	....	2.03	0.37	1.02	....	1.65	0.28	5.85	7.78
	1896	.(b)	....	....	....	....	....	58.3	9.6	32.1	....	1,893	....	1.80	0.30	1.00	....	1.50	0.24	5.63	7.37
	Average	.....	....	....	....	....	....	59.0	10.2	30.8	....	1,787	....	1.90	0.33	1.00	....	1.66	0.26	5.94	7.86

(b) A, Delivered prices: Brown ore, $1.00; Flux, $0.50; Coke, $2.47; Charcoal, 6c. per bu. of 2,748 cu. in. = 22.4 lbs.
(a) *Excluding grey forge, mottled and white irons.

Average Cost Per Ton (2,240 lbs.) of Making Pig Iron in Alabama, 1894, 1895 and 1896.

1. Materials.	1894.	1895.	1896.
Ore	$1.86	$1.754	$1.716
Flux	0.16	0.240	0.128
Coke	2.78	2.840	2.735
Totals	$4.80	$4.834	$4.579

2. Labor.	1894.	1895.	1896.
Cast house	$0.117	$0.193	$0.194
Cinder yard	0.042	0.054	0.057
Engines and Boilers	0.044	0.080	0.083
Furnace office	0.028	0.010	0.011
Iron yard	0.160	0.172	0.171
Laboratory	0.009	.....	.....
Lights	0.008	0.008	0.008
Locomotives	0.099	0.110	0.102
Salaries	0.033	0.026	0.025
Sand	0.009	0.001	.....
Stables	0.008	0.008	0.012
Stock house	0.266	0.295	0.259
Tracks	.....	0.020	0.026
Water	0.012	0.011	0.014
Extra	.....	0.010	0.004
	$0.835	$0.998	$0.966

3. Supplies.	1894.	1895.	1896.
	$0.055	$0.080	$0.092
	0.014	0.017	0.018
	0.310	0.420	0.040
	0.008	0.008	.....
	0.008	0.008	0.005
	0.002	0.004	0.005
	0.004	0.006	0.006
	0.110	0.060	0.068
	.....	.....	.....
	0.025	0.003	.....
	0.003	0.004	0.003
	0.024	0.024	0.013
	0.010	0.017	0.014
	0.011	0.013	0.020
	0.024	0.023	0.030
	$0.329	$0.309	$0.314

4. Current Repairs.	1894.	1895.	1896.
	$0.052		
	0.014		
	0.048		
	.....		
	0.006		
	.....		
	.....	Current repairs for 1895 and 1896 taken at $0.20.	
	0.006		
	.....		
	.....		
	0.020		
	0.015		
	0.010		
	0.014		
	$0.185	$0.20	$0.20

Making in Alabama," issued by the Alabama Geological Survey in 1898. It was his intention at the time to pursue the matter into all of its details. A summary of the conclusions reached is given in the accompanying tables.

The paper referred to shows that the total production of coke pig iron in Alabama during 1895 was 835,851 tons (of 2,240 lbs.) which required the handling of 2,089,627 tons ore, 1,179,375 tons coke and 442,176 tons flux (limestone and dolomite), averaging per ton of pig iron produced a consumption of 2.5 tons ore, 1.41 tons coke, 0.53 tons flux; total, 4.41 tons of raw materials. The largest furnaces in operation in 1895 were 80 ft. high by 19.5 ft. bosh diameter, with a maximum daily capacity of 265 tons of pig iron. The special factors of low iron content of ore and the variation in ore burden with its consequent effect on cost, are given in the tables which have been compiled from furnace records of 32,917 charges, yielding 50,360 tons of pig iron. The prices for raw materials at different localities have been adjusted so as to render the figures comparable and practically are the average prices for shipment during 1895.

The lowest cost per ton of making pig iron during 1889-1890 in the Southern States is given by Carrol D. Wright in his report as United States Commissioner of Labor, 1891, as $9.16 and from records of two furnaces which were in operation in Alabama during this time, the cost per ton was $9.88 and $9.01, respectively.

The average cost of making pig iron in Alabama during 1889-1890 according to W. B. Phillips, was about $9.50, although some furnaces produced it as cheaply as $9. During 1890-1897 the cost was diminished to about $6.50. The lowest cost reached over any considerable period was about $5.75, with a possibility that some furnaces produced it for a short time as cheap as $5.50.

In the "Engineering and Mining Journal," January 27th, 1894, the average cost per ton of making pig iron in Alabama during 1893 is given at $6.37. These figures do not include interest or capital account and are itemized in the accompanying table:

Cost Per Ton of Making Pig Iron in Alabama, 1889-1890, 1893.

	Coke.	Ore.	Cinder scrap.	Limestone.	Labor.	Repairs.	Supplies.	Selling exp.	Taxes.	Total.
Southern Furnace, 1889-1890, C. D. Wright	4.24	1.96	.....	0.32	1,737	0.70	0.156	0.038		$9,161
Alabama Furnace, 1889-1890	4.471	2.587	0.099	0.397	1,835	0.283	0.178	0.031		9.88
Alabama Furnace, 1890		6.32			1.86		0.83			9.01
Engineering and Mining Journal, 1893, Jan. 27, 1894	1.89	1.48	.....	0.50	1.25	0.50	0.50	0.25		6.37

Summarizing and Completing.

1. Materials.	1894. Value.	1894. Per cent.	1895. Value.	1895. Per cent.	1896. Value.	1896. Per cent.
Ore	.....	28.8	.....	26.3	.....	26.6
Flux	.....	2.5	.....	4.0	.....	2.0
Coke	.....	43.1	.....	42.6	.....	42.3
Total	$4.800	74.4	$4.834	72.9	$4.575	70.9
2. Labor	0.835	12.9	0.998	15.0	0.966	15.0
3. Supplies	0.328	5.2	0.302	4.5	0.314	4.8
4. Current repairs.	0.181	2.8	0.200	3.0	0.200	3.2
Gen'l. expenses	0.077	1.0	0.070	1.0	0.093	1.2
Relining	0.170	2.7	0.183	2.7	0.200	3.2
Taxes	0.026	0.4	0.025	0.4	0.080	1.2
Insurance	0.003	...	0.005	...	0.006	...
Bad debts	0.037	0.6	0.033	0.5	0.030	0.5
Total	$6.457	100.0	$6.650	100.0	$6.464	100.0

Other Items of Industrial Importance.

	1894.	1895.	1896.
Lowest cost of making pig iron	$5.71	$5.84	$5.74
Highest cost	7.81	7.02	6.84
Average selling price No. 2 foundry iron	7.28	7.15	7.22
Average cost of raw materials (stock house delivery):			
Hard ore	0.753	0.675	0.672
Soft ore	0.566	0.535	0.572
Brown ore	1.01	1.09	1.07
Limestone	0.605	0.634	0.647
Coke	1.875	1.758	1.727

While bessemer iron does not come into competition with Alabama foundry irons it may be of interest to give the costs of making such

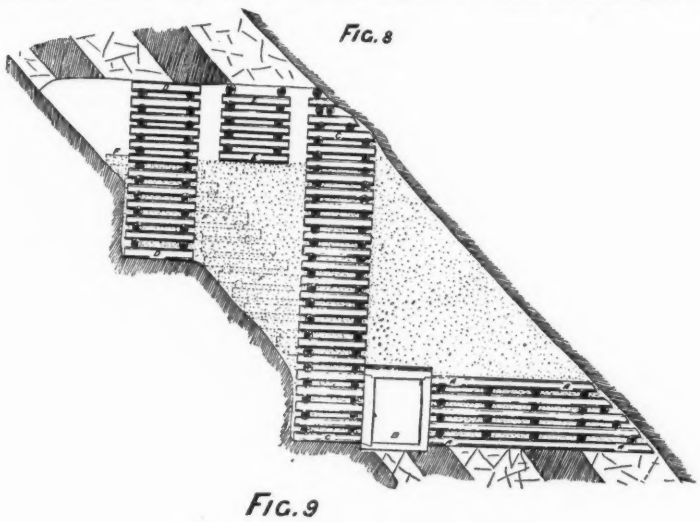
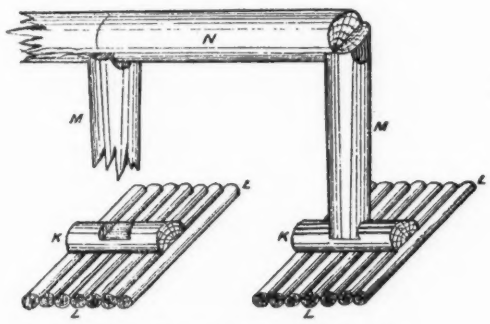


FIG. 9



MINE TIMBERING IN AUSTRALIA.

iron in Western Pennsylvania during the year 1895. The items are as follows, per ton of iron:

Ore, 1.64 tons	$6.36
Limestone, 0.44 ton	0.45
Coke, 0.95 ton	2.02
Coal for boilers	0.01
Coal for yard engines, etc	0.03
Oil and supplies	0.10
Repairs and general expenses	0.30
Labor and office	1.15
Total	$10.42

It is to be noted in this statement that the ore used is a mixture of two-thirds Mesabi at $2.45 on dock at Cleveland, and one-third Old Range ore at $3.55 on dock. Freight from Cleveland, $1.15 less 9c. dockage allowance, $1.06. Cost of ore at furnace, $3.28. Yield of ore, 61 per cent. The cost of the limestone is 28c. f. o. b. quarry, freight, 80c.; total cost, $1.08; amount used, per ton of iron, 0.44 ton. The cost of the coke f. o. b. ovens, is $1.45; freight, 67.2c.; total cost at furnace, $2.12; amount used, 0.95 ton.

In this statement no account is taken of the total amount of iron involved, or the daily capacity of the furnace.

At the same time the cost of making hematite iron in the north of England was about as follows:

Ore, 1.9 tons	$5.62
Limestone, 0.32 ton	0.27
Coke, 1.02 tons	2.86
Coal for steam, 0.05 ton	0.08
Clay, 0.01 ton	0.02
Supplies	0.09
Labor	0.81
Total	$9.75

The cost of making Cleveland iron in England at about the same time was $7.78, or $1.97 less than the hematite pig. This was with 3.08 tons of ore to the ton of pig. The cost of making basic pig in the north of England, with 2.55 tons of ore to the ton of pig, was $8.78. The cost of making basic pig iron in the Westphalia District in Germany was $10.74 in 1893; which is probably somewhat lower than at the present time, as coal and labor are now higher.

SOME METHODS OF TIMBERING AND WORKING WIDE LODES IN NEW SOUTH WALES.*

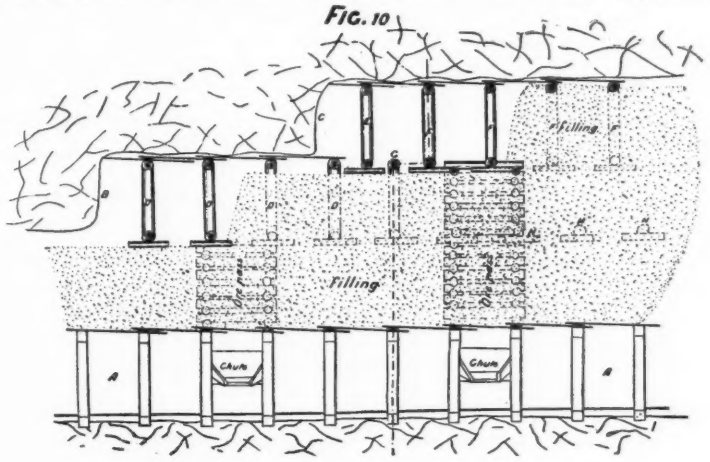
By J. R. Godfrey.

(Concluded from page 201.)

The Prince of Wales Mine, Gundagai.—This consists of a quartz reef about 30 ft. wide, between rotten talcose slate walls, the hanging wall especially being very rotten, treacherous, heavy and full of slipping heads. The reef underlays at an angle of 45°, and is not solid quartz, the stone being intercalated between bands of slate, as shown in Fig. 8.

The reef iself is good standing ground, and had the hanging wall been properly secured at the commencement, no trouble would in all probability have occurred, but, misled by the strength of the roof, it was stoped out for some 30 ft. without any support or filling. The hanging wall began to cave, and continued to work away deeper and

FIG. 10



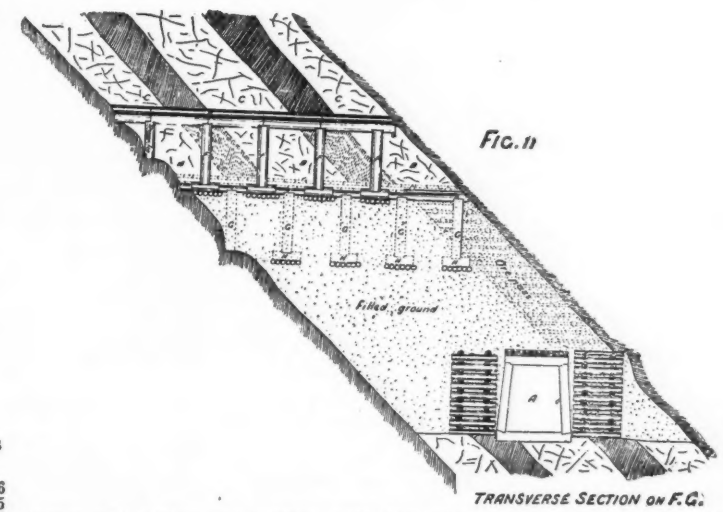


FIG. 11

TRANSVERSE SECTION ON F.G.

deeper and higher and higher, until the lode had no support except its own cohesion, which ultimately became less than its weight, and the mine began to creep, and since then has required careful work and a great amount of timber. The local timber is small and crooked and not fit for sets, therefore stacks are employed, as in former cases, except for the levels, which are composed of set timber, selected and brought from considerable distances.

The first levels driven were timbered too lightly, and once stoping began they soon crushed in; heavier sets were then adopted, but as the reef on either side was stoped out flush with the level, the hanging wall began to move, and this combined with the weight of the filling soon caused these also to crush.

Taught by experience, the manager then put bulkheads right along the levels from end to end outside the sets, as shown in Fig. 8, where B is the level, A A the bulkheads. As the stope was filled stacks of timber were started off the filling and built up to the roof and wedged up, but the shrinkage of the filling drew these stacks away from the roof and the creeping continued. At this stage Mr. G. H. Blakemore took charge of the mine and at once introduced the present method. Instead of building the stacks promiscuously off the filling, they were started off from hitches cut in the solid foot wall, and continued right through the stope, until the hanging wall was reached, when they were wedged up. While passing through the stope they support the roof. These stacks are built systematically in rows, the stacks of each row being

*Abstract of paper read before the Australian Institute of Mining Engineers.

either directly above those in the row beneath, or else alternating with them. Fig. 8, CC, shows one of these completed stacks; DD shows one passing through the stope and serving to support the roof, while EE shows a stack built off the mullock filling. These latter stacks are only supplementary to the main ones, and are put in to strengthen the ground and to support smaller areas of loose ground between the main stacks. All of these are filled with mullock, to give rigidity and stability, and lagging of round poles is placed across from stack to stack where necessary, to keep the men under cover. Though subjected to great pressure, these stacks have answered admirably, and the ground hitherto removed without accidents. One great improvement, which would save building the bulkheads, A, and would economize timber, would be to drive the main levels entirely in the footwall; the reef underlays so much that it would be equally, if not more convenient, and the level could never crush.

The ore passes (FF, Fig. 8) as built as shown, either along the hanging or footwall sides, as are also the travelling passes.

The Sybil Mine, Gundagai.—This adjoins the Prince of Wales, and at one time the two mines were worked in conjunction and the same system adopted; but to save timber and, as it was believed, to increase the security of the mine, another system was adopted by Mr. Brain when he took the management. This consists of using sets similar to the square sets at Broken Hill, but as the complete square set system, where the timber is buried, would be too costly, they only timber one stope, and as the next stope comes over it the legs from that beneath are drawn and used over again, lagging being kept overhead. The same legs, caps and laths are thus used from the commencement to the completion of a stope, from level to level, and only the bed logs and groundsels, on which the legs rest, are lost.

The level AA, (Fig. 10) is driven and timbered in the usual way, but instead of working the stopes out on stacks they are worked out on sets similar to those used in the drives, groundsels, however, being used instead of sole plates.

Fig. 9 gives a view of the method of framing the stope sets. Poles of round timber, LL, are laid down longitudinally on the mullock filling in the stope; across these poles a balk of timber, K, is laid, joggled out on its upper side for the leg of the set to rest in. The leg, M, is always placed in this, with the small end down to facilitate drawing it; the upper end of the log is squared for the cap, N, but is not joggled, "clap-me-downs" sets being used. The end of the cap reaches half-way across the top of the leg, giving room for the next cap to be joined in it. Fig. 9 will make the method of framing the stope sets perfectly clear.

Now suppose a stope is in full work, as shown in Fig. 10; AA is the level, B is the face of any stope being worked in it, DDD are the sets put in as described above, with lagging over the top to secure the ground. As the face of the stope, B, is advanced and the ground timbered, the portion of the stope already depleted is filled, partly with waste mullock from the lode and partly by mullock run from the surface. As soon as the face, B, is well ahead, another stope, C, is started above and four or five sets behind it, and follows it in, being timbered, worked and filled behind in exactly a similar way to the stope below; but when the set, E, is put in, the cap of the set, G, beneath it is removed, a chain put round the top of the leg, G, and this leg drawn. The set, G, is then used for the next set of stope C; and so the stopes advance, the sets in the stope beneath being drawn as they are uncovered and used over and over again, the only loss of timber taking place is the round bed logs and groundsills, H, which are buried. Fig. 11 gives a transverse section of the stope on any of the sets, D.

If the lode is very wide the face of the stope is not advanced uniformly, but is worked ahead in strips, one strip of any stope being kept ahead of another. In this way only a small area of ground is open at any one time, and the maximum of strength is obtained. If the ground be very heavy the sets are studdled or tommed back from one to the other; but in this mine the ground is open for so small a space of time that this is not considered necessary, battens being nailed to the two front sets to keep them from canting when the laths are being driven up overhead.

A stope some 100 ft. high and 25 or 30 ft. wide was worked out in this way, and the initial cost of timber was £35, and no further cost was entailed.

The cost of working it out on stacks is unknown to me, but would probably be nearly £200, and then the timber is lost permanently. By this method only the legs next the hanging wall in run of stopes is lost, the remainder being used over and over again from level to level. Unfortunately, Mr. Brain did not have a chance of trying this system on the heavier ground in the neighborhood of the Prince of Wales Mine, which was worked out on stacks; where he tried it the ground was less treacherous, and as it had never been subjected to a creep a comparative test was not made.

The only possible objection to the system is, that the shrinkage in the filling as it packs down would draw the timber away from the roof and allow it to start when the pressure would be too heavy for the strength of the timber. The method has, however, been tried elsewhere, and acted satisfactorily, and by adapting it to the varying conditions of different localities there is little doubt in the writer's mind that it would be perfectly safe.

Its great advantages are: 1. Great economy. 2. That the men are always protected by timber overhead. 3. That owing to the short time any particular set is in use, and the fact that the ground is close filled, there is no room for any big movement in the ground, and if the system is adopted from the start of a mine it is hardly possible for the ground to get away.

The two systems now in use in Broken Hill are not described because they have been introduced since the author was last there. But the method of stoping in horizontal layers is practically similar to that at the Cobar Gold Mines, Limited. The system of sloping stopes, it may be said, consists in stoping the ore on an incline, instead of horizontally, so that the broken ore rolls away into the passes—the depleted ground is filled and the roof suitably supported by timber. Each stope is followed by another behind it, the incline on the stope being always maintained and winzes sunk beforehand, between which the stopes are worked.

The exact method adopted at any mines of great width must depend upon local conditions, but where economy and strength and scarcity of timber are important factors, some modification of the above methods is almost always adopted. The system is not new, stacks or pigstyes having been used for many years; and, so far as the author knows, they are a purely Australian invention.

ELECTRIC POWER PLANTS IN THE MINING DISTRICTS OF NORTHERN CALIFORNIA.

Written for the Engineering and Mining Journal by G. P. Grimsley.

Since the early '50's the swift flowing streams of the Sierras have been recognized as valuable aids to the mines. When the slow method of panning was replaced by the cradle and sluice-box, a good flow of water was essential, and ditches were dug to convey water to the scene of operations. These temporary trenches were gradually built in a more and more substantial way and carried streams of water under considerable pressure through the sluices or through the pipes into the hydraulic mines. To-day as one travels through these mountains, he sees miles of these old trenches, and near them large cement canals often tunneled through a mountain and representative of a new era in water power.

During the past decade water-power has become prominent in the industrial world and the possibilities of generating electricity by this means in a cheap and efficient way have been successfully demonstrated. The mountain streams with high fall were adapted by a system of tangential water wheels to drive electric generators and give power to city and mine. The development along these lines in California has been rapid; there are many strong companies supplying this power, and others are being organized, some of which will begin construction within a shortt ime.

While eastern electric water-power plants depend as a rule upon large volumes of water under low heads in connection with turbine wheels, the California plants generally use smaller volumes with high heads in connection with tangential water wheels. Higher and higher falls are used until one wonders when the limit will be reached.

One of the first of these companies formed on the coast was the Sacramento Electric, Gas and Railway Company, with a power house at Folsom securing water from the American River, which is held by an 89-ft. dam, and gives a fall of 82 ft. The equipment consists of 5 turbine wheels with 5 750-kilowatt General Electric Company generators. There are 22 miles of transmission lines which carry current for lighting the city of Sacramento and for power in railway shops, street railways, etc. Current is also furnished to the gold dredges at Folsom, which were described in a recent article. This company has now proposed the construction of a second plant on a branch of the same river, where the natural conditions admit of a very large storage capacity, and a fall of 1,780 ft. can be obtained. If this plan should be carried out, it would be one of the highest heads of water, if not the highest, in the world used for generating electric power.

In this same section is the Central California Electric Company, which has constructed two power stations, one near Auburn and one near Newcastle; the former with one 300-kilowatt Westinghouse generator connected with Pelton type water wheel, and the latter with two 400-kilowatt Westinghouse generators. The transmission lines reach Sacramento, a distance of 26 miles.

Anither widely known company was the Blue Lakes Water Company, which began in 1887 the construction of a water power plant to supply the mines in the Mother Lode District. The company succeeded the Amador Canal and Mining Company, whose Butte ditch was constructed in 1850 and whose Amador canal was built in 1870-1873. The power was secured from water stored in the cluster of lakes of the high Sierras in Alpine County, which have a storage capacity of nearly 6,000,000,000 gals.

In 1897 an electric power house was built at Big Bar Bridge on Mokelumne River where a 3,240-ft. pipe line conducted water from the old Butte ditch under 1,042 ft. fall, and electric power was supplied to the Amador, Sutter and Ione mines. This plant was described in the "Engineering and Mining Journal" in March, 1897. The current was manipulated by a temporary 20,000-volt switch-board which probably was responsible for the fire which destroyed the power house in October, 1899.

A new company was then organized by the president, Prince Poniatowski, and called the Standard Electric Company, and now has under construction a new plant of greater capacity at a point 3 miles above the old site which has been named Electra, and is about 8 miles from Jackson in Amador County.

In addition to the water storage basins of the former company, a natural rock basin on Bear River below the Blue Lakes has been shut in by a dam giving an additional storage capacity of 3,500,000,000 gals. The water flows from this lake to the Mokelumne River, which flows over a granite bed and in a deep granite cañon which also carries the water from the upper lakes to the old Amador Canal. This canal has a capacity of 3,000 miner's inches of water controlled by 82 flumes and with a grade of 8 ft. to the mile giving a velocity of 300 ft. per minute.

A new ditch has been constructed with a capacity of 7,500 miner's inches and with three miles of flumes, some of which are 80 ft. above ground-level. A large storage reservoir called the Tabeau has been built above the power-house with a capacity sufficient to run the plant 10 days. This will be used in case of breakage in the pipe lines and may be used in carrying peak loads at certain times of the day. The new ditch connects by a branch with the reservoir, and also runs direct to the power-house with a fall of 1,482 ft., 440 ft. greater than at the old plant. The old ditch also connects with the reservoir and power-house.

The new power-house will have an equipment of seven 3,000-Kw. Stanley generators connected with 7 impulse water wheels of the Pelton type. The current is conducted into the transformer room of the building, where the initial voltage of 2,200 will be stepped up to 60,000. The

wires then pass to a separate building equipped with lightning arresters, and out on the lines to Stockton, Oakland, San Jose and the smaller towns along the way. The line to San Jose will be continued around the bay to San Francisco, and will have a total length of 150 miles. This will be the longest operating transmission line in the world, carrying the highest voltage, and acquiring power under one of the highest heads of water.

Storage batteries at Oakland, San Jose and San Francisco will carry the load in case of temporary shut-down of the plant and will carry peak loads as well as regulate the current on the entire system. The plant when completed next fall will have a capacity of 20,000 H. P., and will cost about $5,000,000. By building dams in Alpine County across Cold Creek, Deer Valley and Little Bear River, the capacity may be increased to 35,000 H. P.

The old Blue Lakes plant has been partially restored and is now used to supply power for the air compressors, drills, mills, etc., of the mines in Amador and part of Calaveras County, but this plant will be abandoned when the new power-house is completed. The old plant now lights the towns of San Andreas, Mokelumne Hill, Jackson, Sutter Creek and Amador City. At the Lightner Mine a 100-H.-P. Westinghouse motor drives a 40-stamp mill, and one 150-H.-P. motor drives an air compressor used in the hoists and drills of this mine. When the new plant is completed electric power will be used in most of the mines of this section.

(To be Continued.)

PIG IRON IMPORTS IN GREAT BRITAIN.—Imports of pig iron into Great Britain for the seven months ending July 31st, were 76,150 tons, of which 32,866 tons were from the United States. This compares with 62,125 and 30,754 tons, respectively, for the corresponding period last year.

MAP OF POWER TRANSMISSION LINES IN CALIFORNIA.

NEW IRON DEVELOPMENTS IN JAPAN.

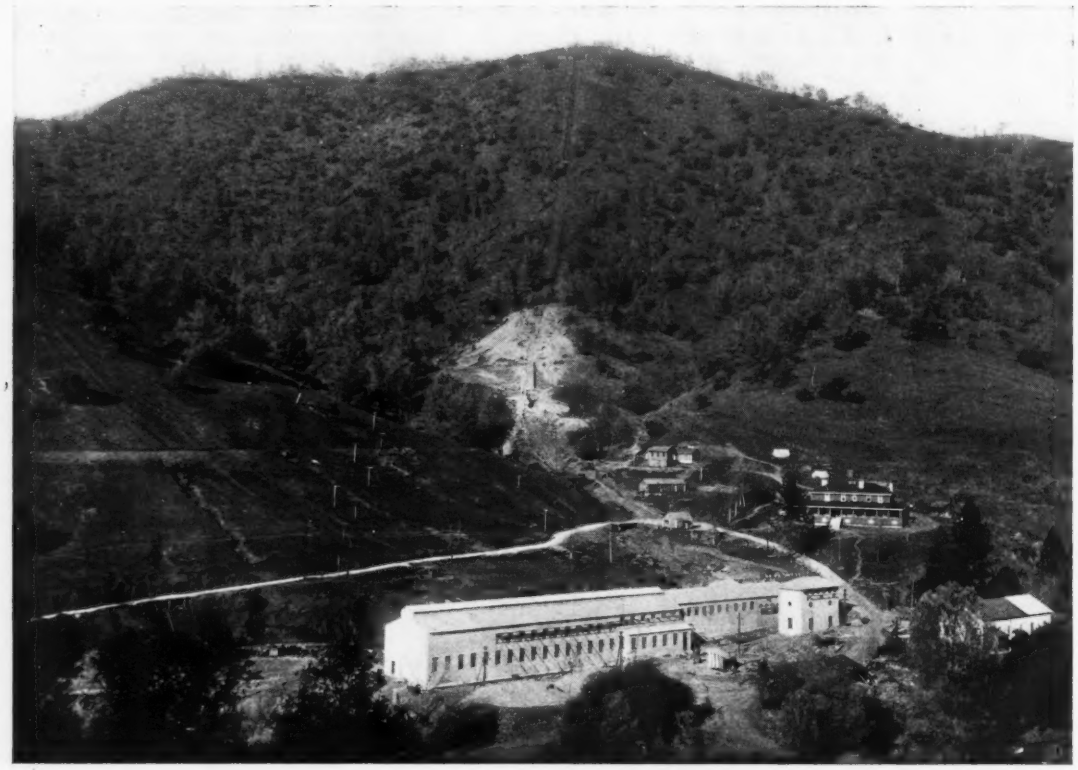
United States Consul General E. C. Bellows, at Yokohama, in Japan, writes to the State Department that it is believed that there are rich deposits of iron ore in northern Japan, Dr. Noro having estimated that there are deposits to exceed 75,000,000 tons within a radius of 60 miles from Ofunato. The ore is found in beds and veins, and contains a very large percentage of iron. The same district contains considerable amounts of sulphur and copper and some lead. The reasons assigned for the non-development of these mines are: Want of mining and engineering experience; failure of the work started by the Government in 1876 (owing to insufficient fuel for charcoal pig), which discouraged others from undertaking it; the general economic depression now prevailing in this country.

Viscount Enomoto, retired rear-admiral of the Imperial Japanese Navy, and Mr. Amenomiya have recently started a company known as the Ofunato Railway, Harbor Improvement and Iron Works Company, Limited, having for its object the development of these mines. Their project includes the improvement of Ofunato Harbor, which is said to possess excellent natural conditions and is on the eastern coast a little more than half way from Tokyo Bay to the northern extremity of the island; the construction of 60 miles of railroad to connect the harbor with the main line of the Nippon Railway, the purchase and development of mines, and the building of an iron and steel foundry, machine shops, etc.

For this work they wish to raise a capital of 12,000,000 yen, or $5,976,000. They are anxious to secure the aid of foreigners in carrying on the enterprise, and to this end are willing to give aliens the opportunity of becoming stockholders, showing in this respect a more liberal spirit than the Japanese are usually credited with.

At present Yokohama is the most northerly harbor on the eastern

coast of the principal islands of the Empire, and the promoters are convinced that Ofunato Harbor, with good railroad connections—such as their plan provides for—would become the center of an extensive commerce, which could not fail to yield a fair profit independently of the iron industry, and if sufficient capital can be procured they believe the iron industry can now be successfully undertaken, the other hindrances to its success having disappeared. Coal well suited for this work can now be obtained abundantly within easy reach of the proposed plant.



Pipe Line and Power House, Standard Electric Company, Electra, Cal.

Power House of Standard Electric Company, Electra, Cal.

COAL IN SWEDEN.—The production of coal in Sweden in 1900 was 252,320 metric tons. Of this, 48.3 per cent. was rated as first quality, the rest being inferior.

GOLD MINES IN KOREA.

A recent report from United States Consul-General H. N. Allen at Seoul says that a concession covering a gold-mining district has been granted by the Korean Government to a French subject, Mr. P. M. Saltarel, in fulfilment of a promise made last December. The concession is similar to those already granted to Americans, Russians, Germans, British, and Japanese. It is for a period of 25 years from the date of commencement of operations, which must be made within two years. A royalty of 25 per cent. net will be paid to the Korean Government after the expense of development has been recovered. No import tax on necessary materials will be levied, and the products of

the mine will be exported free of duty. Other minerals besides gold may be mined within the district. The district has not yet been located, but it cannot include any of the 43 districts reserved for the Crown and known as the Household Mines. The district must not exceed in extent 40 by 60 li (13 1-3 by 20 miles). The concession is said to have no connection with a recently discussed project of a French subject to make a loan to the Korean Government.

Gold mining in Korea is now assuming considerable importance, since it has been successfully prosecuted by the Oriental Consolidated Mining Company, an American concern which operates the Woonsan Mines. This company has a district some 25 by 30 miles in extent in the richest known gold region in Korea. The company disposed of the 25 per cent. royalty by paying a large sum in cash and agreeing to pay a fixed annual amount. It is now successfully operating two mills of 20 stamps each and one of 40 stamps, while another 40-stamp mill is in process of erection. The managers have a cyanide plant as well. The operations at present are confined to quartz work, but extensive placer deposits will soon be worked. Some 70 foreigners are employed at these mines, with over 3,000 natives on the pay-roll or indirectly in the pay of the company. The natives are said to be satisfactory as miners, and they are content on wages of 20c. gold per day. The output and prospects are pronounced to be entirely satisfactory.

The British mines are at present the next in importance to the American mines. They lie not very far from the district occupied by the Americans and have long enjoyed a good reputation. Much money is being expended in exploitation, but they are too new to be out of the development period.

The Germans are actively engaged in working their district, which lies to the east of Seoul. The Japanese are opening up their mining district to the south of this city. The Russians seem not to have begun work upon their mining concessions as yet.

MINERAL COLLECTORS' AND PROSPECTORS' COLUMN.

(We shall be pleased to receive specimens of ores and minerals, and to describe and classify them, as far as possible. We shall be pleased to receive descriptions of minerals, and correspondence relating to them. Photographs of unusual specimens, crystals, nuggets and the like will be reproduced whenever possible. Specimens should be of moderate size, and should be sent prepaid. We cannot undertake to return them. If analyses are wanted, we will turn specimens over to a competent assayer, should our correspondent instruct us to do so, and send the necessary money.—Editor E. & M. J.)

400.—Rock from Mexico.—W. E. U.—The black silicious rock is probably a cherty band such as are frequently found in limestones. It may, however, be of igneous origin. The rock is so very fine-grained that microscopic examination is necessary to settle the point definitely.

402.—Mercuric Iodide.—In the "American Journal of Science" A. J. Moses describes material from the Broken Hill Mine, New South Wales. This material was a thin, bright, red coating on a specimen of impure limonite. No measurements of crystal faces were possible nor could the material be mounted for the petrographical microscope, but a close examination and chemical tests suggested very definitely mercuric iodide in isometric crystals of the hexoctahedral class. The tetrahedral copper iodide, marshite, and the hexagonal silver iodide, iodyrite, both occur in the Broken Hill mines. The descriptions of the Mexican iodide of mercury, coccinite, differ notably from the New South Wales material, the Mexican mineral occurring in acute rhombric pyramids.

404.—Pure Cerium Oxide.—In a recent communication to the Paris Academy of Sciences, M. Jean Sterba modifies MM. Wyrouboff and Verneuil's method of preparation of pure cerium. He uses electrolysis as an agent of oxidation, this rendering the operations much more rapid. Cerium oxide when perfectly pure can have a decided color, but when prepared with elimination of nitrogen it becomes snow white. The action of hydrogen on cerium oxide effects an incomplete reduction and formation of Ce_2O_3. Zinc also reduces the oxide CeO_2.

405.—H. H. No. 12.—The reddish-brown dense rock with smooth fracture is jasper, a form of quartz containing more or less iron oxide as pigment. In this instance the iron oxide is hematite. The rock has no commercial value.

406.—A. H. No. 13.—This specimen cannot be determined accurately without microscopic examination, the grain being too fine to recognize the component minerals by simple inspection. The black ground mass may be hornblende or augite, while the glistening colorless grains are doubtless quartz. The rock is probably of igneous origin, although its character has been changed by weathering and impregnation of silica.

407.—A. H. No. 14.—This is coarser in grain and more massive than No. 13, but otherwise resembles it closely. The structure indicates a dike rock, while the composition is basic and approaches diabase, an igneous rock composed of feldspar and pyroxene.

408.—A. H. No. 15.—The specimen shows coarse crystals of dark-green hornblende with small patches of reddish feldspar. Large masses of this character are of common occurrence in granite and granite gneisses, their presence being usually explained on the theory that they have crystallized out while the granite mass was in a molten condition.

409.—A. H. No. 16.—This rock is composed of granular quartz. It is classed as a quartzite.

410.—A. H. No. 17.—This is a very coarse granite or pegmatite containing feldspar, hornblende, quartz and magnetite. Such types usually occur in the interior of granite intrusions or in dikes.

411.—A. H. No. 19.—The specimen appears to be an altered granite of fine grain. It contains much more quartz than ordinary granite which, probably, was deposited after its formation. The earthy green mineral disseminated throughout the mass is valuable, a hydrated carbonate of copper.

412.—A. H. No. 26.—This specimen shows a mass of hornblende granite enclosing a small vein of magnetite, an oxide of iron.

QUESTIONS AND ANSWERS.

(Queries should relate to matters within our special province, such as mining, metallurgy, chemistry, geology, etc.; preferences will be given to topics which seem to be of interest to others besides the inquirer. We cannot give professional advice, which should be obtained from a consulting expert. Nor can we give advice about mining companies or mining stock. Brief replies to questions will be welcomed from correspondents. While names will not be published, all inquirers must send their names and addresses. Preference will, of course, always be given to questions submitted by subscribers.

Books referred to in this column can be obtained from the Book Department of the Scientific Publishing Company.—Editor E. & M. J.)

Matte Smelting with Charcoal.—In a small 16-ton capacity water-jacketed matting blast furnace where we only have pine charcoal for fuel I have been using with good result lately one-third of the fuel weight replaced by blocks of green hardwood. Since doing so, however, I find we are making two kinds of matte in our outside settler, the upper half carrying Cu 6 per cent., Ag 160 oz., and Au 2.75 oz. per ton, while the lower half carries Cu 15 per cent., Ag 300 oz., and Au 4.50 oz. per ton. Can you explain the cause of this irregular separation?—J. C.

Answer.—Some more data might be acceptable. We cannot explain the cause of the irregularity. The question is an interesting one, however, and we should be much pleased if any of our readers who are or have been engaged in matte smelting could suggest an explanation or give experiences in the same line. It is possible that the wood may have had some effect, but not certain.

Titanium.—I have a titanium mine and am trying to find out where this ore is treated or bought. As you give the quotations you no doubt can give me some information about this ore.—P. M. R.

Answer.—Titanium is quoted among the rare elements, but there is only a small demand for it industrially. It is sold chiefly as ferro-titanium. There are at present no buyers of titanium ores. Most iron smelters consider titanium acid as a serious detriment, and will not buy iron ores carrying any titanium compounds. The metal is used in making steel, and it is claimed that with proper treatment pig iron of high grade can be made from titaniferous iron ores. Most ironmakers, however, would contest this.

Mr. A. T. Rossi, of No. 35 Broadway, New York, has for a long time been engaged in experimenting in the use of titanium in making steel, and in the treatment of titaniferous ores. You will find an excellent article by him on the "Manufacture of Titanium and its Alloys" in "The Mineral Industry," Volume IX.

The Bullock Process.—Referring to your comment on the Hicks process, "Engineering and Mining Journal," page 192, August 17th, I should like to know what the Bullock process is, if you can tell me.—G. C. S.

Answer.—The Bullock process was in limited use in Georgia, a few plants having been put up near Dahlonega in the mining boom after the War, about 1866-1870. The main points were fine grinding in a modified Chilean mill, followed by amalgamation, at first in a pan furnished with mullers; later a closed barrel was substituted for the pan. The inventor also experimented with some chemical process—using sulphuric acid, we believe—for treating the ore before amalgamation, where it contained pyrites; but this was not successful, and was never used on a working scale. The process did not succeed; those who had plants discarded them after a time. The reasons given was that it was slower and more expensive than a stamp mill, while saving no more of the values. No provision was made for concentrating or saving sulphurets from the tailings, as it was claimed that this would not be necessary. Some old miners about Dahlonega may remember something about these plants. The company which made them disappeared long ago.

PATENTS RELATING TO MINING AND METALLURGY.

UNITED STATES.

The following is a list of the patents relating to mining and metallurgy and kindred subjects, issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company upon receipt of 25 cents.

Week Ending August 13th, 1901.

680,214. CONVEYOR APPARATUS. George S. Baker, London, England. The combination of a conveyor to carry articles in a single row, a plurality of conveyors traveling synchronously side by side, one of which receives the articles delivered by the first conveyor, registering projections upon the conveyors which serve as guides for the articles, and means to divert alternate articles from one conveyor to another.

680,246. METHOD OF SLAKING LIME. James H. Harrier, North Industry, Ohio. An improvement in slaking quicklime, consisting in exposing it to moisture, and then excluding the air by a covering of pulverized slaked lime.

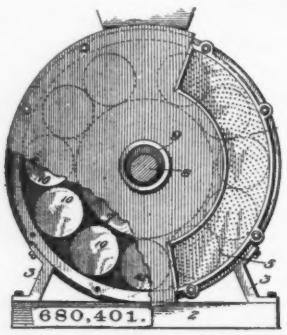
680,280. BLOWING FAN. Rudolf Roesser, Vienna, Austria-Hungary, assignor to Orkan Lufttrocknungsapparat Actien Gesellschaft, same place. The combination of a stationary casing provided with an opening or aperture, a rotary fan in said casing, means for imparting continuous rotary motion to said fan, a discharge nozzle provided with a regulating portion, concentric with and guided and rotatably movable on the apertured or open portion of the casing.

680,290. COMPOSITION OF MATTER FOR FILTERING OR CLEANING PETROLEUM, ETC. Morris Thomas, Sharon, Pa. A composition of matter for filtering or cleaning petroleum and other oils, consisting of sawdust 99 per cent., and salt 1 per cent.

680,313. PROCESS OF DESULPHURIZING ORES. Linus P. Burrows, Washington, D. C. The process consists of taking high-pressure steam, permitting a jet of it to expand in a chamber, drawing off the condensed water from this chamber, passing the lower-pressure steam drawn from the chamber through a pipe subjected to external heat; applying heat to a retort containing a body of sulphide ore and passing the resultant gaseous product from the aforesaid pipe through the mass of ore.

680,371. STRESS APPARATUS. Henry M. Brittan, San Francisco, Cal., assignor to American Steel and Wire Company, same place. The combination of a cylinder and a piston, yokes connected with the cylinder and piston and extending in opposite directions, said yokes including arms having inturned ends secured respectively to the heads of the cylinder and piston; means carried by the yokes for the attachment of a rope or part to be tested, and means for indicating the tension upon the part to be tested.

680,401. ORE CRUSHER. Charles Suttie, Onehunga, New Zealand. The combination with a cylindrical crushing chamber provided with an inlet and an outlet, of a drive-roll mounted in said chamber, and


680,401.

a series of loose rolls located in the race of said chamber formed by the periphery of said drive-roll and the interior annular wall of said chamber and bodily movable about said race and driven by the action of said drive-roll.

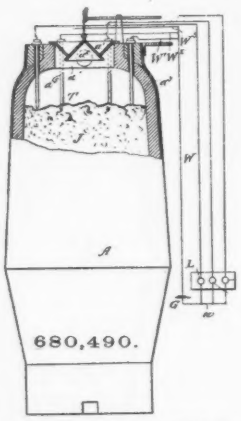
680,408. APPARATUS FOR USE IN ELECTRODEPOSITION OF METALS. Sherard O. Cowper-Coles, Westminster, England. A vat, a revolubly-mounted cathode in the vat, a turbine located in the upper part of the vat for rotating the cathode, and means for projecting the electrolyte against the said turbines as it is introduced into the vat, thereby rotating the cathode.

680,440. ELECTROLYTIC APPARATUS. Brodde E. F. Rhodin, Sault Ste. Marie, Canada, assignor to American Alkali Company, Camden, N. J. An electrolytic cell provided with a plurality of anode compartments arranged in a ring and with ducts, passages or conduits radiating from the center of the ring and leading to these compartments.

680,441. ELECTRODE FOR ELECTROLYTIC CELLS. Brodde E. F. Rhodin, Sault Ste. Marie, Canada, assignor to American Alkali Company, Camden, N. J. An electrode comprising a block of carbon and carbon rods extending through the block and adjustably and detachably connected thereto by a screw-thread connection.

680,453. APPARATUS FOR TREATING CALCIUM HYDRATE. Mansfield J. French, Syracuse, N. Y. An apparatus comprising a receptacle having its opposite ends provided with openings for receiving and discharging the material, said receptacle consisting of outer and inner shells, the inner shell being perforated and of less diameter than the outer shell for forming a space or passage from end to end and entirely around the inner shell, perforated transverse walls across the open ends of the receptacle and having some of their perforations communicating with the space between the outer and inner shells, and closures for the end openings having passages for the steam, water or hot air.

680,490. APPARATUS FOR INDICATING THE LEVEL OF CHARGES IN FURNACES. Thomas H. Martin, Cleveland, Ohio, assignor of two-thirds to Frederick L. Grommer and Albert T. DeForest. The combination of a furnace, a pair of electric terminals in the interior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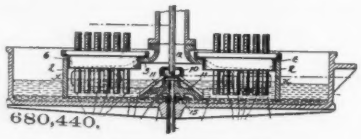
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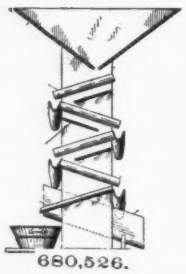

680,526.

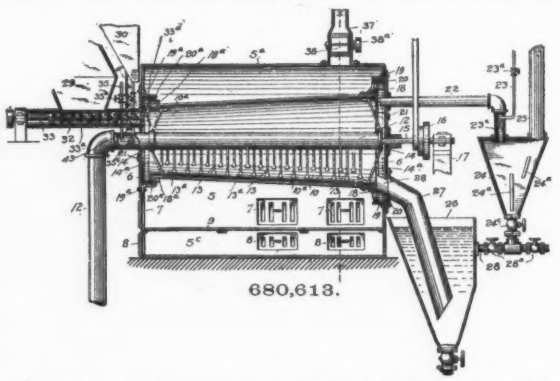
thereof, an electric circuit leading from said terminals and including a source of current and a signal, the same being arranged so that the circuit is closed by the conductive charge in the furnace bridging from one of said terminals to the other.

680,526. SAMPLING APPARATUS. Herbert E. T. Haultain, Salmo, Canada. A sampling apparatus comprising two sets of inclined spaced sampling troughs in combination with a mixing-board located between the sets and adapted to receive material passing between the sampling troughs of the upper set and discharge it upon the lower set near their upper ends.

680,595. MANUFACTURE OF HOLLOW BLOOMS FOR PRODUCING TUBES, HOLLOW SHAFTING, AXLES, ETC., FROM COMMON PUDDLED IRON OR OTHER METALS. John G. Inshaw, Birmingham, England, assignor of two-thirds to Frederick Billing and Francis Billing, same place. An improvement in the manufacture of hollow blooms for producing tubes and the like, consisting in forming a bar of puddled iron, or other metal, of which the tube, or the like, is to be formed, with longitudinal segmental projections, connected by a backing or thin belt of the metal, and bending the bar and bringing the segmental projections together so as to form the hollow bloom.

680,603. PROCESS OF MAKING SODIUM SULPHIDES AND LITHOPONE. Iens P. Lihme, Cleveland, Ohio, assignor to the Grasselli Chemical Company, same place. The process consists in bringing together solutions of zinc sulphate, barium sulphide and sodium sulphate in suitable proportions to precipitate lithopone and produce sodium sulphide in solution.

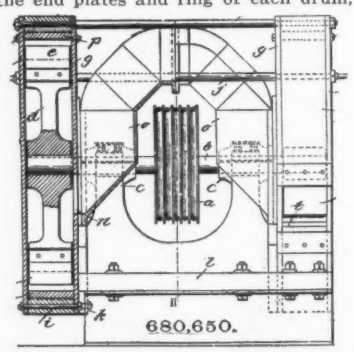
680,613. ORE-ROASTING AND DESULPHURIZING FURNACE. Amos S. Partridge, St. Louis, Mo. The combination of a revoluble retort having open ends adjacent to the end walls of the furnace, a packing between the end walls and retort, an air-conducting pipe within the retort, blow pipes projecting from and having commu-


680,613.

nication with the interior of said pipe, spiders carried by said retort and rotatably mounted on said air pipe; means for rotating said retort and means for feeding ore into the retort.

680,631. CAR LOADER. John E. Young, Trinidad, Colo. The combination of a longitudinally-movable car adapted to be run into and out of a railway car, a power mechanism carried by said movable car, and including a gear, horizontally-disposed segment frames having vertical axes and disposed on opposite sides of said movable car, said segment frames being adapted to be swung successively into and out of the opposite ends of the railway car, through a door in the side of the latter, and conveyors mounted on said segment frames.

680,650. CRUSHING OR PULVERIZING MACHINE. Cornelis F. Delfos, Pretoria, Transvaal. Two drums, each consisting of a ring having an opening and circular end plates fitted against the rings, tie-bolts passing through the end plates and rings of both drums to thereby rigidly unite the same; a second series of bolts passing through the end plates and ring of each drum, a plurality of seg-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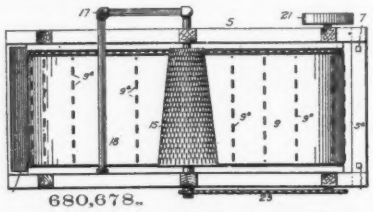
ments in the drum bearing against the inner surfaces of the rings, having undulatory working surfaces, wedges fitted against the segments and secured to the rings, a shaft extending centrally through said plates, radial arms in the drums, on the ends of the shaft, detachable hammer heads secured to said arms, a driving member on said shaft between the drums, a hopper between said drums and located over said driving member, said hopper having supply spouts leading to openings in the inner plates of said drums, a bearing frame for said shaft, a base piece rigidly connected with the bearing frame and bolted to the inner of said circular end plates, and discharge chutes leading from the openings in said rings

680,678. CONCENTRATORS. George W. Thornburgh, Denver, Colo. The combination with a suitable frame, of an endless concentrating belt


680,678.

or apron mounted to travel thereon, and provided with broken, transverse riffles, formed by passing a device substantially of the construction described, back and forth through the apron.

GREAT BRITAIN.

The following is a list of patents published by the British Patent Office on subjects connected with mining and metallurgy.

Week Ending July 20th, 1901.

11,602 of 1900. ROLLING SHEETS. E. Martin, Paris, France. Method of rolling thin sheets of copper on iron and steel sheets.

13,050 of 1900. STEEL PROCESS. B. Talbot, Pencoyd, Pa., U. S. A. An arrangement of movable flues for the inventor's continuous steel process.

13,493 of 1900. ALKALINE CHLORIDE PRODUCTION. J. Hargreaves, Farnworth in Widnes. Treating waste pickling liquors with alkalies to produce chlorides of alkalies and oxides of iron suitable for pigments.

14,573 of 1900. BAUXITE PURIFICATION. C. M. Hall, Niagara Falls, N. Y., U. S. A. Treating bauxite with soda and lime to produce pure alumina.

15,092 of 1900. COKING PEAT. M. Ziegler, Berlin, Germany. Arrangements of retorts for use in the coking of peat.

15,171 of 1900. ALUMINUM-MAGNESIUM-ZINC ALLOY. D. E. Murmann, Vienna, Austria. Production of an aluminum-magnesium, in which the latter metal is partly replaced by zinc, for cheapness.

21,376 of 1900. CONCENTRATING SULPHURIC ACID. J. L. Kessler, Paris, France. Special troughs for completing the concentration of sulphuric acid.

10,975 of 1901. ELECTRODE. The Castner Electrolytic Alkali Company, Niagara Falls, N. Y., U. S. A. Improved form of electrodes for electrolytic cells.

PERSONAL.

Mr. August Heckscher, general manager of the New Jersey Zinc Company, has gone to Europe.

Mr. T. J. Cunningham has been elected phosphate inspector of South Carolina, vice Colonel Vance, deceased.

Prof. W. F. King has returned to the Butte School of Mines from an extended trip through the Eastern and Middle States.

Dr. John Lyman, who was prominently connected with the defunct International Zinc Company, of Missouri, has returned to New York from Europe this week.

Mr. Michael Sheridan, formerly superintendent of mines in the Ballarat District, Cal., has been appointed superintendent of the Tonopah Mines in Nevada by General Manager Turner.

Prof. A. N. Winchell, of the Butte School of Mines, is making a tour of the Colorado mining districts. Recently he returned from a trip through Montana, Wyoming and South Dakota in the interest of his department.

Prof. Bowman, of the department of mechanics and electrical engineering at the Butte School of Mines, recently superintended the installation of a large electric plant for the Rock Springs (Wyo.) Coal Company.

Mr. Uriah Dudley, well known in Australia as a mining engineer, is now on his return to that country, after two years of travel in Europe and America. He will be located for a time at Cue, in Western Australia.

Mr. E. A. Franke has resigned his position as metallurgist with the Featherstone Foundry and Machine Company, of Chicago, and has accepted that of mining engineer and chemist to the Elizabeth Mining Company at Keystone, South Dakota.

Mr. Edward L. Dufourcq, formerly a member of the firm of Olcott, Fearn & Peele, which was dissolved last spring, has returned from Peru and has accepted the position of general superintendent of the Montezuma Lead Company, at Santa Barbara, in the State of Chihuahua, Mex.

OBITUARY.

Lloyd Booth, a pioneer iron manufacturer and president of the Lloyd Booth plant of the United Engineering and Foundry Company, of Youngstown, O., died August 28th, aged 67 years.

Samuel Strong, one of the pioneers of Cripple Creek, Colo., was shot in that city August 23d and died the same day. Mr. Strong's career, while sucessful in a financial sense, was stormy and replete with incidents such as characterized the early days of mining in the West. He was born 37 years ago in Ohio and upon entering manhood went to Colorado, settling first at Colorado Springs. He prospected successfully in this locality for some time, but when the first discoveries were made at Cripple Creek he sold out his interest and joined the rush to that camp. Here he located the Strong Mine, adjoining the Independence, which was the basis of his success; and also became interested in the Free Coinage group at Altman that added materially to his fortunes. Active in business and of rugged personality, he made warm friends and bitter enemies. His tragic death was the culmination of a long-standing quarrel over a financial matter.

INDUSTRIAL NOTES.

The American Brass Company, the brass combination, has acquired control of the Holmes, Booth & Hayden Company.

The Cambria Steel Company is preparing to manufacture steel cars on a large scale at works which will be located at Franklin, Pa. The plant will employ 2,000 men and have a capacity of 40 cars a day.

The Illinois Steel Company has let a contract for a cement storage elevator at South Chicago, Ill. It will be of Monier construction, with five tanks each 25 ft. in diameter, 50 ft. high, and with a total capacity of 25.000 bbls.

The old Atlantic Mill, owned by the Republic Iron and Steel Company, at Sharon, Pa., has resumed operations, giving employment to 300 hands. The skelp department is also nearly ready to start.

The International Salt Company, with a nominal capital of $125,000, has been incorporated at Trenton, N. J. This is understood to be the first step in consolidating the leading salt companies, including the National Salt Company, which already controls about 20 concerns in New York alone.

The Shultz Belting Company, of St. Louis, Mo., is making additions to its plant to cost about $50,000. The improvements include a new building to the south of their present plant 60 by 150 ft. in dimensions, and 4 stories high, which will be thoroughly equipped, and the old plant will be overhauled.

A syndicate at Cleveland, O., has purchased a large interest in the Gardner electric rock drill and is expending about $100,000 in a plant for manufacturing the same, the demand being so large that the shops at Denver were getting too small for the business. The main office of the company has been moved to Cleveland.

The Jackson Iron and Tin-Plate Company has been incorporated under the laws of West Virginia with a capital of $300,000, for the manufacture of tin-plate. Buildings are now being erected at Clarksburg, W. Va., and contracts for machinery to the value of $250,000 have been made. It is intended to increase the capital stock as the construction work progresses, and the plant, when complete, will consist of 14 mills with an average daily output of 700 tons sheets.

The consolidation of the Cambria Steel Company and the Conemaugh Steel Company has been finally settled by the incorporation of the Cambria Steel Company, with a $50,000,000 capitalization. Of this 900,000 shares of the par value of $50 are to be issued, share for share, and 100,000 shares wil be reserved. The new concern is practically a reorganization of the Cambria Steel Company. Those interested in the new company are: Theo. N. Ely, Effingham B. Morris, Frank J. Firth, Leonard C. Hanna, J. Lowber Welsh, Geo. F. Baer, Edward T. Stotesbury, Powell Stackhouse and John Townsend. W. S. Robinson is the secretary and treasurer.

The Bethlehem Steel Company has finally passed into other hands. Charles M. Schwab, who is prominently identified with the United States Steel Corporation, paid $4,032,000 for 168,000 shares of the Bethlehem Company. On August 27th, as soon as the transfer was made, the officers of the Bethlehem Company resigned and the following were elected at the meeting in Philadelphia: Edward M. McIlvaine, president; A. E. Borie, vice-president; H .S. Snyder, secretary; A. N. Cleaver, treasurer; Archibald Johnston, general superintendent. Board of directors: Robert Linderman, E. T. Stotesbury, Edward M. McIlvanie, Archibald Johnston, George F. Barr, J. P. Orr and Charles McVeagh.

The Department of Justice, in an opinion by Acting Attorney General Beck, has advised the Secretary of the Navy that he is justified in withholding his approval of certain vouchers submitted by the Bethlehem Steel Company and the Carnegie Steel Company, for royalties paid to the Harvey Steel Company for the use of the Harvey process in hardening steel.

The claims of the Carnegie and Bethlehem companies were based upon a contract by which the Government agreed to reimbuse them in case they were required to pay the royalties to the Harvey Company. The matter has been in dispute for some years, and while the particular royalties only relate to the hardening of the armor plates for the battleships "Illinois" and "Wisconsin," yet the decision affects all of the royalties upon the various battleships which have been constructed since 1893 or are under process of construction.

The F. D. Cummer & Son Company, of Cleveland, manufacturers of the Cummer dryers, report among their recent sales the following: Coal dryers to the Vulcanite Portland Cement Company, Phillipsburg, N. J., and to the Alpha Portland Cement Company, Easton, Pa. (second orders); one clay, one marl and one coal dryer to the Iroquois Portland Cement Company, Caledonia, N. Y.; one coal dryer to the Owen Sound Portland Cement Company, Owen Sound, Ont.; two marl dryers, one shale and one coal dryer to the Hecla Portland Cement Company, Bay City, Mich.; one sand dryer to the Rathbun Company, Deseronto, Ont.; one crushed stone dryer to the Brooklyn Alcatraz Asphalt Company, Brooklyn, N. Y.; one iron ore dryer to the Garry Iron and Steel Company, Cleveland, O.; one distillery slops dryer to the Hammond Distilling Company, Hammond, Ind.; one graphite dryer to the Wisconsin Graphite Company, Stevens' Point, Wis.; one tankage dryer to the John P. Squire & Company, East Cambridge, Mass. The Cummer Company also reports having sold and delivered 5 Cummer portable railroad asphalt paving plants since January 1st.

The Colorado Iron Works, of Denver, recently received several large orders for mining and smelting machinery, including a 50-ton concentrating plant to be shipped to Arizona; one-stack copper-matting plant with Bretherton hot blast apparatus for the Val Verde Copper Company, of Arizona; three 36 by 144-in. steel jacketed hot-blast copper matting furnaces for the Robinson Consolidated Mining and Smelting Company, Colorado; one set of steel water jackets for Boston Gold-Copper Smelting Company, Colorado; one set of steel water jackets for Home Smelting Company, Colorado; five slag trucks of an improved pattern for the Mountain Copper Company, California; 100-ton concentrating plant with Bartlett tables for the Guggenheim Exploration Company, Mexico; two sets 36 by 16-in. crushing rolls for Union Copper Company, North Carolina; 42 by 140-in. steel-jacketed copper matting furnace for shipment to Vermont; 38 by 80-in. steel-jacketed copper matting furnace to be shipped to Arizona; eight Bartlett tables and other machinery for the Alta Mines, Colorado, and two improved pattern slag trucks for the American Smelting and Refining Company, of Denver.

The rolling mill of the Dover Iron Company at Dover, N. J., resumed operations this week after its usual summer shut-down. The pudd.ing furnaces were started on Monday and the heating furnaces later in the week. During the shutdown all the furnaces have been repaired. No. 2 heating furnace has been torn down and entirely rebuilt and a new foundation has been built under the 10-in. rolls. This rolling mill was built in 1792 by Canfield & Losey, who purchased the old Beemer forge. The firm failed in 1817 and the property was purchased by Blackwell & McFarlan, who added materially to the plant. In 1827 the plant consisted of three rolling or slitting mills and two chain cable shops, in which anchor cables for ships were made. In 1830 Mr. McFarlan died and he was succeeded by his son, who shortly added to the plant a rivet mill and furnaces for converting Swedish and English iron into steel. In 1880 the Dover Iron Company was organized and bought the plant. The present directors, elected last week at the annual meeting, are: John Kean, Mahlon Pitney, Frederick A. Potts, Henry S. Little, Albert Richards. Senator Pitney is president of the board and Henry W. Crabbe secretary and treasurer.

TRADE CATALOGUES.

The Buffalo steel plate planing mill exhausters are special types of centrifugal fans, and are applied for the purpose of exhausting shavings and sawdust from wood-working machines, refuse from emery wheels and buffing wheels, and for other purposes of a like nature. A small catalogue just issued by the Buffalo Forge Company, Buffalo, N. Y., illustrates and describes the various kinds of this type of fan. The Buffalo Forge Company has recently perfected its shavings and dust separator, and the type now being constructed is illustrated in a new folder.

An attractive booklet has just been issued by the Westinghouse Companies, of Pittsburg. This publication is intended for distribution from the exhibits at the Pan-American Exposition. It gives a comprehensive idea of the industrial enterprises with which the name Westinghouse is associated, and refers to some of the notable work accomplished by these companies. As electricity is the prominent feature at the Pan-American, the Westinghouse Electric and Manufacturing Company's work will attract most attention, but there is much to be said also of the Westinghouse Machine Company, the Westinghouse Air Brake Company, Westinghouse, Church, Kerr & Company and the other branches of this noted industrial group.

MACHINERY AND SUPPLIES WANTED.

If any one wanting machinery or supplies of any kind will notify the "Engineering and Mining Journal" what he needs he will be put in communication with the best manufacturers of the same.

We also offer our services to foreign correspondents who desire to purchase American goods of any kind, and shall be pleased to furnish them information, catalogues, etc.

All these services are rendered gratuitously in the interest of our subscribers and advertisers; the proprietors of the "Engineering and Mining Journal" are not brokers or exporters, and have no pecuniary interest in buying and selling goods of any kind.

GENERAL MINING NEWS.

American Mining Investment Company.—At a recent meeting of the stockholders in Minneapolis, Minn., it was resolved to reorganize the company by consolidating the properties which it floated. These are the Kettle-Curlew, the Boundary Camp, Queen Bee and Union Consolidated. The new consolidation is to be capitalized at $12,500,000, shares at $1 par value, and the exchange of stock will be 5c. on the ratio for what was actually paid for the old shares. A lively discussion followed this resolution, which terminated in the election of the following directors: C. R. Tuttle, H. B. Gress, M. B. Miles, O. C. Lindman and G. E. Gelgin.

ALASKA.

Nome District.

A San Francisco dispatch of August 26th says: "The steamer 'St. Paul' has arrived from Nome, via St. Michael, with $1,500,000 in gold dust. She brings information that Judge Wickersham will not hold court at Nome during the temporary absence of Judge Noyes, and that cases now pending are to be tried at Unalaska."

ARIZONA.

Yavapai County.

United Verde.—The strike is off, and the men have returned to work. In a published statement Senator Clark announced that the smelter

men, machinists, mechanics and other surface men struck on August 3d because he declined to concede to their demand for 8 hours' work and 10 hours' pay.

CALIFORNIA.

Amador County.

(From Our Special Correspondent.)

Blakely.—This mine in the Volcano District has been developed by a 150-ft. tunnel run to the west, and a 50-ft. winze which has been connected with the surface by a 200-ft. shaft. A drift run on the tunnel level has developed a 12-ft. vein of very high-grade ore.

Bunker Hill.—The double compartment shaft is down 1,100 ft. on the incline and drifts are being run both north and south on the 800-ft. The mine is equipped with a double steam hoist. Twenty-five men are employed under Superintendent C. R. Downs. The property is located just north of Amador City.

Fremont.—On this property north of Amador City shaft No. 2 is down 1,500 ft. and No. 3 is down 640 ft., both on the incline. A tunnel is being run north on the 640-ft. of No. 3 to meet the tunnel on the 700-ft. of No. 2, now in 1,200 ft. to the north. At No. 3 a cross-cut recently run to the west on the 400-ft. has opened up two bodies of ore, each about 25 ft. in width. No. 1 shaft has been abandoned and the other two are being repaired and the old levels cleaned out and repaired also. The old mill, which was destroyed by fire some years ago, is to be rebuilt on a larger scale. C. E. Purington is superintendent.

George Upton.—At this mine, 7 miles northeast from Plymouth, the work of drifting on the ledge continues, and the drift is now in 300 ft. The prospects still keep up and the ledge so far has proved a milling proposition. This drift is being run north and south and if followed for ¾ of a mile would come out on the other side of the hill, where the ledge samples $14 per ton. The company owning this property has filed on 12 of the adjoining claims.

Keystone.—This mine in Amador City is being worked on a large scale by Superintendent W. A. Pritchard. The main shaft is down 1,500 ft. on the incline and by October 1st the new gallows-frame and air compressor will be completed, also the 20 stamps being added to the 40-stamp mill. The plant is operated by steam and water power, but an electric plant is to be installed; 65 men are employed on underground work alone, the operations being confined to the 400-ft., 500-ft., 800-ft. and 900-ft. levels, opening up large bodies of ore.

Calaveras County.

(From Our Special Correspondent.)

Fannie Marie.—The machinery on the Lloyd property is being moved to this mine at Glencoe. The shaft is down 200 ft. in good rock. Three shifts are worked and 12 men are employed. W. H. Gifford is superintendent.

Kern County.

(From Our Special Correspondent.)

Red Dog Mill.—This mill is still running on ore from the Blackhawk Mine. Shipments are being received from the Butte, Yucca, Tree, Santa Ana and Napoleon mines.

Mariposa County.

(From Our Special Correspondent.)

Hunter's Valley.—A shipment of 1,000 tons of copper ore is reported to have been made to the Selby Smelter from this mine.

Princeton.—The shaft at this mine has reached the 1,200-ft. and a station has been cut at the 1,100-ft. At the 950-ft. the drift on the ledge has reached the 900-ft. point, and is still in ore. A drift is also being run on the 800-ft. The 30-stamp mill is crushing about 100 tons daily.

Nevada County.

(From Our Special Correspondent.)

Posey.—This mine in the Grass Valley District has been bonded by W. H. Bray and associates, of San Francisco, who have made arrangements to put in machinery and develop the property on a large scale.

San Bernardino County.

(From Our Special Correspondent.)

John R. Gentry Mining and Milling Company.—This company has been organized by Los Angeles parties to work the J. R. Gentry mines in the Buckeye District, 8 miles south of Ludlow. A large amount of high-grade ore is said to be in sight.

Sierra County.

(From Our Special Correspondent.)

Dudley.—This gravel mine at Forest has been bonded to Los Angeles people, who have put a force of 10 men at work. A ditch and flume are being constructed from Oregon Creek to bring in water.

Oakland.—This property near Gold Lake is being developed by V. C. Julian, the owner, who has opened up the ledge in five places by shaft and tunnel work. Arrangements are being made to put in a mill. The vein is said to be on the same contact as the Plumas-Eureka vein which passes on through the Young America Mine. The ledge shows well in free gold.

Siskiyou County.

(From Our Special Correspondent.)

Salmon River Consolidated.—This mine on the South Fork of Salmon River is reported to have been bonded for a large sum. The property comprises 210 acres, the Deep Bank and Thompson claims being part of the holdings. There are now three giants in operation, water being brought in by 940 ft. of ditch and 5,000 ft. of flumes. W. A. Cooper is superintendent.

Summerville.—At this hydraulic mine, which extends 5 miles along the South Fork of the Salmon River, work has commenced to rebuild the Little Fork and Rush Creek flumes. A new crossing or an inverted siphon, which carries the water of the South Fork across the main South Fork, will also be put in new and the pipe enlarged to 18 in. All the ditches will be cleaned out and placed in order for next season's run.

Shasta County.

(From Our Special Correspondent.)

Pittsburg Mining District.—Four copper claims known as the Home, Moore, Arnold and Last Chance claims, near Sallee, have been purchased by J. M. Day, of Los Angeles. Price said to be $7,500. There is a 30-ft. shaft on the Last Chance.

Sybil.—A tunnel 1,000 ft. in length has been run on this property, located near French Gulch, developing very high-grade ore, which is being shipped to the smelters at Keswick and the Selby Smelter. Four men are steadily employed and the force is to be increased. G. A. Von Kruze is owner.

Trinity County.

(From Our Special Correspondent.)

Dorleska.—On this property in the Coffee Creek District extensive improvements are being made. The machinery for the new steam plant now on the ground consists of a large engine and boiler to operate the 5-stamp mill. A Los Angeles company owns the property.

Tuolumne County.

(From Our Special Correspondent.)

Mack Consolidated.—A 20-stamp mill is being installed at this mine on the north side of Big Oak Flat. The two shafts, down 100 and 200 ft. respectively, will be connected by a drift as soon as the former, which is a double-compartment incline shaft, reaches the 200 ft. A new engine and boilers have been contracted for. The vein is said to be large, carrying fair grade ore. C. L. Lang is superintendent.

Nonpareil.—The machinery of the Longfellow Mine at Big Oak Flat is being moved to this mine, which is a west extension of the Mount Jefferson and Laguria Mines near Groveland. Present development of the Nonpareil shows a vein 80 ft. wide, 40 ft. of which is claimed to go $8 per ton. Some 1,500 cords of wood have been stored at the Mount Jefferson Mine and a new hoist will be placed on the old shaft, 325 ft. east of the working shaft. The old shaft will be sunk to 500 ft. before the 20-stamp mill starts.

Shawmut.—The work on the 100-stamp mill to be added to their plant is being rushed to completion. The hoists in course of erection on the hill will be the largest in the county. The mines are located 2½ miles northwest of Jacksonville. A. Halsey is superintendent.

Soulsby.—They have commenced to unwater this old mine at Soulsbyville. An injector is used to throw out the water to a certain depth and then the hoist will be started to complete the work. Good ore is said to be in the bottom of the shaft.

Spring Gulch.—Machinery is being delivered at this mine, between Big Canyon and the North Fork of the Tuolumne River, 2½ miles southeast of Carters. The mill has been enlarged and extensive improvements made. A large force is employed.

Tanzy.—At this old pocket mine on the Bonanza Vein, in Sonora, a pocket was struck at a depth of 200 ft. from the surface which has yielded about $15,000 so far. Four years ago a pocket was found which yielded $42,000. The lessees are T. C. Birney, F. Lauener and H. Munroe.

COLORADO.

Arapahoe County.

(From Our Special Correspondent.)

Ground was broken at Denver on August 16th for the construction of an ore dressing plant by the Colorado Zinc Company. Although the capacity will be only about 50 tons at the beginning, there will be plenty of room for more machinery when the same is required. They expect to treat the Leadville zinc-iron-lead ores, which will be crushed to 30 mesh, then run over Wilfley tables, of which there will be 6, through steam driers and magnetic separators. The zinc product will be shipped abroad and the zinc-lead product to the local smelters. The plant was designed by J. S. Scobey and will be managed by A. C. Beatty. Mr. H. R. Guggenheimer is the principal owner and secretary and treasurer.

Archuleta County.

(From Our Special Correspondent.)

Since the Pagosa Lumber Company completed the Rio Grande, Pagosa & Northern Railroad from Pagosa Junction to Pagosa Springs, Colo., the latter town has greatly improved. Although the 32 miles of road was constructed for the use of the lumber company in hauling their logs out of the timbered country through which it runs the passenger traffic is constantly increasing and it will probably become a branch of the Denver & Rio Grande Railroad, to which it naturally belongs. The accommodations at the Springs are still primitive and considering the curative properties of the mineral water it is to be hoped that before long these will be improved upon. The Pagosa Lumber Company is operating some coal mines along the road and in the surrounding territory indications of coal measures abound. Those of oil are also prominent and several companies have lately been organized to work wells. The mining camp at Ellwood, about 25 miles from Pagosa Springs, is producing some ores and considerable prospecting is being done there. The owners of the land on which the springs are located have thus far shown very little progressive spirit and a company is at present boring on the town site in the hope of striking mineral water outside of the company's land.

Clear Creek County.

(From Our Special Correspondent.)

Alice.—There is no truth in the report that this property at Yankee Hill is to be sold. While the owners are anxious to make a deal the proposition is too big for the average investor. It will be necessary to work the ore body on a very extensive scale. The Alice owns about 200 acres of low-grade mineral.

Big Five Company.—A tunnel has been started by this company to reach the veins lying north of Idaho Springs. Over 200 ft. of the tunnel was through slide and sand. This distance was walled up with masonry. When rock was cut a vein was encountered before the rock had reached to the roof of the tunnel. Between walls is 5 ft. and the pay-stream is 14 in. wide. It was a blind lead. The company is working electric drills in the Edgar Union Mine, but a Leyner compressor has been bought and air drills are to be used in the Central Tunnel.

Colorado Specie Payment Gold Mining Company.—Boston people have just purchased this property at Idaho Springs for about $250,000 and organized a company. The new officers are: Ed. W. Williams, of Denver, president; Dr. E. D. L. Parker, of Providence, R. I., vice-president; Wm. E. Colley, of Providence, R. I., treasurer; Frank J. Alexander, of Denver, secretary; A. A. Hoxie, of Providence, assistant secretary. The banking house of Colley & Company, of Boston and Providence, backs the company. There are 18 claims in the group. Development work of the past two years has opened up 10 ft. of milling and smelting ore. The latter streak is 2 ft. wide. The milling values average $14 a ton. The ore carries copper with gold and silver.

Newhouse Tunnel.—A Baldwin-Westinghouse electric locomotive has been ordered by Manager Hanchett. A dynamo is to be installed at the air-compressor house. The tunnel is now into the mountain over 2 miles and driving 250 ft. a month. Five different mining companies are working on veins and as a result the transportation of the ore and rock must be met by a more rapid means of haulage. Mules are now used to haul the trains.

Lake County—Leadville.

(From Our Special Correspondent.)

The remarkable activity of the past few months on Carbonate Hill and its Graham Park slope has resulted in adding a number of producers from the sulphide contacts to the list; but these are only the forerunners to additional sulphide producers and this locality promises to produce even greater values from these new ore zones than for the upper levels, which in the early days made such an enormous rich tonnage and which are still outputting from these upper levels. Both the Greenback and Evelyn are now down with their shafts into the sulphides and will be steady shippers very shortly, while other shafts in the vicinity are either about to sink or have the work well under way. The outlook for an enormous production from that locality alone is very bright.

A. M. W. Combination.—In addition to a tonnage of 300 tons a day from its various shafts new prospecting and development work is kept ahead. The most important new work is the running of a drift from the Wolftone bottom level to connect with the Mahala workings. This drift is cutting through the old Agassiz workings and is also showing some fine ore.

A. Y. & Minnie.—The lessees are making a production of 50 tons a day of good zinc concentrates, besides shipping a quantity of crude ore. Some very nice silver-lead ore is also being extracted.

Ballard.—This mine is producing 75 tons daily of high-grade ore, giving good gold values.

Some ore is also being taken out which runs 60% bismuth and 5 oz. gold. Development work is being kept well ahead.

Brennan Mine.—New lessees have this Ball Mountain property and will push in both tunnels, one of which is already showing a nice vein of high-grade ore.

Carbonate Hill Mining Company.—Drifting on the iron body caught just before the big fire has been resumed and connections for air will be made with the Midland shaft, after which ore will be hoisted. Connections will then be made with the main drift for air, after which work will be pushed in addition to hoisting, in the hope of catching the rich P. O. S. shoot of the Nubian Company.

Caribou.—This is the old Bison Mine, which produced such an enormous iron tonnage from the Leadville basin a few years ago. By sinking a better iron shoot has been opened up, from which 200 tons a day of good-grade iron are being shipped.

Emmet Mining Company.—The Columbia shaft is in operation under the direction of lessees, who are doing some prospecting work and making occasional shipments from streaks of chlorides encountered.

Evelyn Mining Company.—The shaft which struck ore at 930 ft. is being carried down to the 1,000-ft. depth, where the ore body encountered above can be more advantageously handled. Additional machinery is being put in place, while the sinking work will be completed by the end of the month. The property is located in Graham Park.

Four Per Cent. Group.—The lessees have resumed regular iron shipments from the upper levels and later in the season will push down the Cady shaft to the lower levels. The work has already been started, but operations ceased temporarily owing to a very heavy water flow.

Georgia Gulch Mining Company.—Operations have just been resumed. The shaft was sunk to the Lake beds last year and work ceased. A churn drill is now being put in place to determine the formation and if satisfactory the shaft will be continued downward.

Gold Belt Mining Company.—This is a new shaft being sunk on the Big Four claim and is going down slowly as the ground is very hard. They expect to encounter the South Winnie Shoot.

Greenback Mining Company.—Sinking has finally been completed to a depth of 1,200 ft. and this property will soon be producing from the big sulphide body which is being caught on its dip from the 1,000-ft. level, where it was so successfully opened up last year.

Iron-Silver Mining Company.—In addition to making a regular output from the Moyer shaft and a good concentrate from the zinciferous product handled by the Moyer Hill, this company is pushing most important work on its Stevens shaft, which was sunk to a depth of 900 ft. and at which point a great deal of new prospecting and development work is being done in virgin territory.

Josie Mining Company.—After a number of months spent in prospecting work without satisfactory results the Montana people at the head of this combination have decided to suspend operations.

La Plata Mining Company.—The Montgomery shaft of this combination is preparing to resume work. The shaft was recently sunk a distance of 300 ft., but owing to a cave-in work was temporarily suspended. A number of good veins were cut in sinking.

Lillian Gold Mining Company.—Leasers are operating on this combination, it being leased in small blocks and returning nice profits and good royalties in most instances. The largest lease on the Lillian is the Murcray, which is producing some rich ore, while a large tonnage has been made for the past year on a low-grade silicious material. Shipments on this latter, however, have ceased for the time being.

Long & Derry Mine.—This old-time proposition in Iowa Gulch, which has been idle for years, has resumed operations. The mine is being worked under lease and the shaft will be sunk to a known ore body which is being opened up in the Doris territory near by.

Maple Street Mining Company.—Arrangements are being closed which mean the definite resumption at this important new downtown proposition located in virgin territory in the extreme southwestern portion of the city limits. After sinking the shaft over 500 ft. the diamond drill has shown a splendid formation and fine contact material. Mr. Wm. E. Hawks, of Bennington, Vt., after making a thorough examination, has recommended to the Eastern stockholders the resumption of active work.

Morocco Mining Company.—In the new A. V. shaft sinking has been abandoned for the present, owing to increased water troubles. The drifting on the upper levels is showing a good contact. Messrs. Sheedy & Kountz, of Denver, are at the head of this combination and are after the same ore shoots they are opening up so successfully in the P. O. S. and other workings lying to the northeast above the new shaft.

Nayar Mining Company.—Eastern people are at the head of this combination which sent down the old shaft on the White Cap to the sulphide contacts. At a depth of 700 ft. some drifts to tap the sulphides are now being run.

Niles-Augusta.—Iron shipments are continuous, and meantime a drift is being pushed in virgin territory at the 225-ft. level, which is showing some good lead ore giving the promise of making into a strong lead ore body.

Northern Mining Company.—This is a downtown proposition lying idle which is arranging to resume. The bottom level at 565 ft., is in ore and in iron, but when the property closed down some time ago this could not be mined to advantage owing to the heavy water flow. An effort is to be made to connect with adjoining workings and if this is successful the ore bodies opened up can be profitably handled.

Nubian Mining Company.—In addition to developing and shipping from a good lead-iron ore body some remarkable chlorides are coming from a streak being followed at the 500-ft. level. This stuff runs several thousand ounces silver to the ton and quite a number of sacks of it have been taken from the streak which appears to continue for a considerable distance as far as opened up. The stuff is found in the shape of a hard carbonate.

Ohio Mining and Leasing Company.—Sinking has been completed on this new gold-belt shaft to the depth of 300 ft., the objective point. Drifting has been commenced to catch the vein which was caught in the two levels above.

Ouray County.

(From Our Special Correspondent.)

American Mining Company.—Mr. R. G. Hall, for many years connected with the Pueblo Smelter, has been appointed manager of this company, and has taken charge of its affairs. About 50 men are employed at the mine, and the tramway carries about 50 tons daily to the 20-stamp mill on the Uncompahgre River.

Park County.

(From Our Special Correspondent.)

The Standard Smelter Company will within a few days commence the erection of a 250-ton smelter at Alma in which the new furnaces which have successfully treated ores in British Columbia will be used.

San Miguel County.

(From Our Special Correspondent.)

Since January 1st last the sales of mining property in this county amount to a gross total of $1,350,000 in 12 transfers, tangible evidence that the intrinsic merits of our mineral deposits are receiving part at least of the attention they deserve.

Carribean Consolidated Mining Company.—Articles of incorporation have been recorded at Telluride, capital $1,000,000, in shares of $1 each. Directors, William Murray, Geo. A. Herrington, Jas. A. Wood, Paul A. Huberl, Wm. A. Leonard. Offices, Denver, Colo., and Saranac Lake, N. Y. The company has just purchased the Carribean-Montezuma group of 12 lode claims, with mill-site and 10-stamp mill, for $350,000, $100,000 paid. It was owned by Holyoke, Mass., parties, who have successfully operated it for 10 years. Developed by mill level of 1,600 ft. that cut vein 1,300 ft. below apex, with upraise to surface from which 13 levels have been run on vein. The ore reserves are of great extent and estimated at $1,000,000 in value. Net profits have been from $3,000 to $5,000 per month. A large addition will be made to the mill and a cyanide plant installed at once. Chas. S. Newton, Ophir, Colo., manager for past 10 years, remains with the new company in the same capacity.

Keystone Hydraulic Mining Company.—This company, under the management of Mr. E. L. Davis, of Telluride, has completed its magnificent 2,800-ft. flume and 2,200 ft. of pipe line, and has started up its first giant nozzle, of 8 in. diameter. With a fall of 560 ft. and 5-ft. pipe to start with, the latter decreasing to 16 in. diameter, an enormous pressure is brought to bear on the nozzles, and the company expects to do a large amount of work before the water supply gets low. It is the intention to erect an electric plant also and to work night and day. Mr. R. Casey is superintendent.

Ophir Consolidated.—This company has completed a tramway 1,900 ft. long, to Silver Bell workings. All machinery for new 100-ton mill has been received and is rapidly being set up. Mill will be in operation by September 1st. Development is advancing with most gratifying results. No. 3 level on the Butler has been run 610 ft. through an unbroken ore shoot averaging 5 ft. between walls, carrying from 1 to 3 ft. of first-class shipping ore. Breast of level shows 2 ft. of that grade now, with no evidence of passing through the shoot. A mill level has been started that at 1,600 ft. will cut Silver Bell vein, 1,000 ft. below No. 6 level, about 1,800 ft. below apex. From this level 16 of the company's claims can be worked, most of them at greater depth. W. S. Buckley, Telluride, Colo., is resident manager.

Palmyra.—Manager J. H. Shockley, of Telluride, Colo., on August 19th made the final payment of $14,000 to Mike Dowd and Joe Watton, former owners of this property, on behalf of the Four Metals Mining Company, which, about 18 months ago, secured possession under lease and bond. The Palmyra is developing into a large and substantial shipping and milling proposition.

San Bernardino Mines.—These mines on Sunshine Mountain, near Ophir, have been sold to Wm. A. Otis & Company and Shove, Aldrich & Company, banking firms of Colorado Springs, for $200,000. The property was owned in London, Eng., and embraces 5 patented and 5 unpatented lode claims, two patented mill sites, a 60-ton mill, tramway and water rights. Extensively developed, with large reserves of ore. No. 1 level is in 900 ft., No. 2 1,400 ft., No. 3 1,600 ft., No. 4 2,300 ft. The mines have been steady and profitable producers for many years. Smelter returns on last four cars shipped, two of which were concentrates, were $4,914. Operated by Colorado men, the property will attain a more prominent position. A. B. Litchfield, Telluride, Colo., is resident manager.

Tomboy Mines Company.—This company shipped August 18th gold bars weighing 1,500 oz., the result of 5 days' run with 20 stamps on Argentine ore. Unquestionably this yield can not easily be equaled by any free-mi ling gold proposition. The company's mill, with 8 Huntingtons, 5 ft., is reducing 200 tons per day with profitable results. John Herron, Telluride, Colo., is manager.

Teller County—Cripple Creek.

(From Our Special Correspondent.)

Gold Knob Mining Company.—Work was resumed on the Aluminum claim of this company at Goldfields, after a suspension of some weeks. The property is located near the Golden Cycle and Vindicator and is supposed to contain an extension of these veins. The Woods Investment Company is in control of the work.

Mary McKinney.—This mine, after more than a year of serious difficulty with water, has at last succeeded in reducing the flow to such an extent that sinking can be resumed. It is the opinion of some that since the flow has been so decreased there does not exist a permanent water course under the Cripple Creek District. It is probable that measures will soon be adopted to put through a drainage tunnel for the district.

Monarch Gold Mining Company.—The directors of this company have held a meeting for the purpose of planning an increase of the capital stock from 1,000,000 to 1,500,000 shares. The surplus will be used as a treasury reserve and for the payment of debts. Two new members have been added to the directorate.

Moon Anchor.—There are 8 sets of lessees working on this property under a system new to this district. A man or set of men is put to work in a certain part of the property, the company furnishing tools, powder, etc., and hoisting the ore, the lessee paying 50% royalty on all the ore he ships. The company is preparing to start sinking in the shaft and will do some development in the 8th level.

Santa Rita.—The shaft on this property is to be sunk another 100 ft., which will put it to the 700-ft. point. The mine has been steadily developing since a very good strike was made more than a year ago.

Wild Horse.—The recent strike in this mine is considered by many as the richest in the district. From the vein, which is 5 ft. wide, recent returns were had averaging from 14 to 20 oz. in gold to the ton. The shoot has been drifted on for a distance of 15 ft. and has been opened in two levels.

IDAHO.

Custer County.

(From Our Special Correspondent.)

The construction of the Salmon River Railway by the Oregon Short Line Company is already showing marked effect on the mining activity of Custer County. This new branch starts at Blackfoot, a station on the Butte Branch of the Oregon Short Line 20 miles north of Pocatello, and has been surveyed to the Salmon River at Challis. It is the intention of the company to continue the line on down the Salmon River canyon to Lewiston. This is quite a feasible route and would open a large undeveloped gold and copper region. The first terminus of the new road will be at Mackey, a new town being laid near Houston, 95 miles northwest of Blackfoot, to which point the grading has nearly all been completed, while the track is laid out 30 miles from Blackfoot and is now being extened.

Clayton Mining and Smelting Company.—This company at Clayton, 60 miles west of Mackey, started the smelter August 17th for the usual season's run. There are about a dozen big teams hauling from the mines and the smelter yards are rapidly filling up with lead-silver and copper-silver ores. This property has been suc-

cessfully operated under adverse conditions for the past 7 years and has paid an annual profit of from $25,000 to $50,000. The production of this plant has been largely governed by the amount of bullion that could be moved to the railway 150 miles distant by wagon freight. Last year the 50-ton smelter of this company was in operation 112 days and turned out 1,400,000 lbs. of bullion, and several car-loads of it had to be carried over until spring for want of teams to haul it. This year 90 miles of the wagon haul will be cut off by the advance of the Salmon River Railway and will afford quite a relief.

Fissure.—At this mine, 30 miles east of Custer, the Fissure Mining Company, a Kansas organization, has just completed a 10-stamp mill. This property has a fissure vein in granite 4 ft. wide. It is quite extensively developed and is furnishing the mill with 30 tons of ore a day that averages $10 per ton in gold. The mill is run by steam power; a large percentage of the value is saved by plate amalgamation and the balance by concentration on Wilfley tables.

Hartford Copper and Gold Company.—This Boston company, at Estes Mountain, 7 miles north of Custer, is developing the Yankee Fork group of mines, which was purchased early this year for $10,000. This property has been quite a rich producer in the past, although its development does not exceed a vertical depth of 250 ft. The vein is a contact between dikes of altered diabase and felsite porphyry; it is 5 ft. wide and carries values of $25 per ton in gold and silver. The new company has installed a 22-H. P. gasoline hoist of the Fairbanks-Morse pattern, and is sinking an inclined shaft on the vein. The battery blocks have been put in place and a new building nearly completed for the accommodation of a 10-stamp mill, the machinery for which was shipped by the Union Iron Works of San Francisco on August 6th. The manager, Mr. John I. Minear, an experienced California Mining man, espects to have the mill in running order by October 1st. The process will be free plate amalgamation and concentration on Wilfley tables and a large area of canvas tables. The concentrates will be shipped to Salt Lake or Denver and average about $300 per ton gold and silver. The mine also produces small lots of very rich shipping ore.

Owyhee County.

Poorman.—The company owning this mine has decided to continue development on an extensive scale, notwithstanding the difficulties that have been encountered in dealing with the water below the level of the tunnel. An electrical pumping plant will be installed and provision has been made to secure the necessary power from the Trade Dollar Company, which owns the Swan Falls electrical plant.

ILLINOIS.

McLean County.

Four men were killed in a mine at Chenva on August 26th by the falling of a cage.

St. Clair County.

Coal Mine Accident.—An explosion at the Bossworth Mine, near French Village, on August 27th, set fire to the shaft and imprisoned 20 miners. By the prompt action of the women and children of the neighborhood, who turned water into the mine from the engine reservoir, the fire was extinguished and the miners escaped without injury.

INDIANA.

The commission appointed by Governor Durbin to codify the mining laws of this State organized by electing W. H. Zimmerman of Brazil, president, and J. C. Heenan of Linton, secretary. The commission is composed of Mr. Zimmerman and Jacob Kolsem of Terre Haute, operators, and Mr. Heenan and James Cantwell, miners.

MICHIGAN.

Copper—Houghton County.

(From Our Special Correspondent.)

Coal receipts have been heavy the past month. Since the opening of navigation 25,000 tons of anthracite and 125,000 tons of bituminous have come in, all for the mines.

Arcadian.—Diamond drill work continues on the St. Mary's property. There is a pronounced improvement in the two shafts on the Mesnard epidote in the lower levels.

Atlantic.—The heavy expenditures for improvements will cease shortly. Shaft A is down 538 ft. Sinking is progressing rapidly and in time the shaft will become a heavy producer. Shaft B is 2,102 ft. deep and Shaft C, 2,002 ft. Six-ton skips are installed in Shaft D and its productive capacity will be increased. Shaft E, 2,439 ft. deep, is but a short distance from Shaft D and is used exclusively for the hoisting and lowering of men and timber. Shaft F is 2,157 ft. deep. Sinking in the shaft on Section 16 is well under way and drifting will commence when a point where the formation is undisturbed is reached.

Baltic.—Work on the mill is advanced and it will likely go into commission about October 1st. The lower workings at the mine are showing up well.

Champion.—Underground work is being pushed and by the time the mill goes into commission the ground reserves will be adequate to supply 3 heads. Sinking is in progress in 4 shafts at the following depths: B, 400 ft.; C, 375 ft.; D, 475 ft., and E, 625 ft.

Franklin.—Three heads are in commission at the mill and a fourth may be installed. The Peninsula shaft is shipping 260 tons of rock per day. When the shaft is stripped to the 16th level, sinking will begin. At the same time the south drifts will be extended 1,000 ft. and then work on a new shaft will be commenced by raising and sinking from the various levels simultaneously.

Winona.—The strong showing in copper at the 4th level in Shaft No. 2 has led the management to continue sinking. It is proposed to sink the shaft an additional depth of 200 ft., and if the lode improves, sinking will be continued to a still greater depth. The formation is very irregular at the Winona, Elm River and Wyandot, but at the former it improves with depth. In No. 2 shaft 1,300 ft. of drifting south has been done at the 2d level, 1,400 ft. at the 3d and 800 ft. at the 4th.

Wolverine.—Work on the new steel mill on Travers Bay is delayed by the non-arrival of structural iron.

Copper—Keweenaw County.

(From Our Special Correspondent.)

Allouez.—Operations are confined to the shaft on the Osceola amygdaloid lode. No steps toward the opening of the shafts on the Allouez conglomerate have yet been taken, although reports that such action will be taken have been circulated.

Copper—Ontonagon County.

(From Our Special Correspondent.)

Mass Consolidated.—The mill is treating 400 tons of rock per day.

Iron—Marquette Range.

Ore Shipments.—During the last few weeks there has been an increase in the shipments of ore from this range, and inroads are being made on the large stock piles in and around Marquette. The full effects of the strike have not yet been felt in this section, but should it continue for any great length of time the miners are sure to be sufferers through the curtailment of shipments.

MINNESOTA.

(From Our Special Correspondent.)

Ore shipments are less than early during this month and during July. The United States Steel Corporation is maintaining freights by stepping into the market whenever there is a surplus of tonnage and chartering at the rate set by it at the commencement of the year, 80, 70 and 60c. from the various points of dispatch. This is having the effect of reassuring vessel owners of a stability for rates for the future that is reflected in the orders for new ships that are being given the lake yards.

The Penobscot Mining Company has filed its answer to the brief of the three iron ore roads of this State as to the reasonableness of freight rates and as to the interstate character of the ore traffic. Naturally the answer denies that character. The defendants will have an answering brief next week and the re-hearing will come later, at a later date than was set, because of the delay in the Penobscot Company's answer.

There is a lull in the market for low-grade ore properties and some of the exploring that has been done during the season has been stopped. A good deal of the work that has been carried on along the western part of the Mesabi Range is not proving what was looked for and is being stopped.

Iron ore roads have suffered by the exceeding speed of traffic and have had many accidents of late, more or less severe. The Eastern Minnesota's new line from the central Mesabi has been out of commission from the first day it was used till now on account of the collapse of a great truss bridge over the St. Louis River that went down with the first load it was called upon to carry.

Iron—Mesabi Range.

(From Our Special Correspondent.)

Prospects are favorable for the shipment of all ore in stock on surface before the close of navigation, and many of the larger mines have already about cleaned up their stockpile grounds. There are large stocks left at the Republic Iron and Steel Company's mines at Virginia, but elsewhere on the range they are about gone. At Hibbing, where there have been large stocks for several years, nearly all the surface ore is out of the way. Men are scarce and wages are high, and it looks as though there would be more work than men during the winter.

Colonial Mining Company.—About 300 tons is the daily output of Hale and Kanawha mines of this company.

Crucible Steel Company of America.—This company is interested in the recent purchase of W. P. Snyder from C. A. Congdon, set out at length in this correspondence of late. It will secure its Mesabi ore from here.

Genoa Iron Company.—This company has cleaned up its No. 1 stock and is working at No. 2 shaft with a steam shovel.

Interstate Mining Company.—This company (Jones & Laughlins, Limited) is finding more ore than it expected upon the Mesabi lands purchased last spring. Thos. Walters, superintendent of the Jones & Laughlins properties, now residing at Ishpeming, will move to Duluth shortly, it being the logical center for his operations. The company has not commenced shipments from its Columbia in any quantity, but will soon. It is sinking at the Lincoln and exploring the Grant, the last-named being a State lease.

Roberts Mining Company.—This company has completed its No. 2 shaft and tracks are laid thereto. This doubles the shipping capacity of the mine, which will do a great deal more another year than in the past. It is expected to mine 100,000 tons in 1902.

MISSOURI.

Jasper County—Joplin.

(From Our Special Correspondent.)

Zinc Ore Market.—The price of zinc ore was materially reduced during the week ending August 24th, and all sales were from 50c. to $1 less than the preceding week. It is thought the steel strike is the real cause of the relaxation, but many believe the purchasing agents have by preconcerted action reduced the price independent of other influences. The assay basis of zinc ore was reduced from $24 to $23 per ton for 60% blende, but many lower grades did not decline in this proportion. A number of high-grade lots were sold at $26.50 per ton, as against $27 last week. The Kohinoor, the Amsden and Jack Harvard zinc ore brought $26.50, and a number of holdings were delivered upon last week's sales at $27.

Lead ore remained unchanged from the previous week, the entire product selling at $23.50 per 1,000 lbs., delivered. The lead ore market is strong, considering the fact that the Argentine smelters, near Kansas City, are completely shut down and are not in the market with their accustomed demand.

Compared with the previous week, the lead sales were less by 39,350 lbs., and zinc sales by 651,710 lbs., with a decreased valuation of $13,942. During the corresponding week of last year zinc ore's top price was $28 per ton, and lead ore brought $22.50 per 1,000 lbs., delivered.

The following are the sales of lead and zinc ores during the week ending August 24th, 1901, with values:

	Zinc, lbs.	Lead, lbs.	Value.
Joplin	3,155,730	473,450	$50,455
Carterville	1,539,700	348,880	25,148
Galena-Empire	1,259,340	138,810	17,700
Webb City	634,830	16,230	7,360
Oronogo	531,130	104,100	8,664
Duenweg	216,730	36,750	3,121
Aurora	510,000	13,470	6,093
Zincite	225,240	2,790	2,993
Neck City	205,870	.....	2,676
Granby	324,000	82,000	3,606
Carl Junction	204,770	.....	2,662
Roaring Springs	157,690	11,720	1,849
Cave Springs	125,880	18,030	1,868
Spurgeon	77,270	55,240	2,134
Carthage	113,520	.....	1,419
Total	9,341,720	1,301,470	$137,780
Total corresponding week, 1900	9,859,880	1,221,150	151,717
Total since Jan. 1st, 1901	340,289,840	45,062,870	5,133,146

Zinc value last week, $108,585; lead, $29,163. Zinc value since January 1st, 1901, $4,115,815; lead, $1,023,431.

Magnetic Separator for Mundic Ores.—W. P. Cleveland, a well-known Joplin assayer, has devised a process for separation of mundic or pyrites from the Missouri zinc ores by the use of electricity, and has erected a plant for that purpose.

Shannon County.

(From Our Special Correspondent.)

Recent investigation by experts show that copper exists in what is thought to be paying quantities in this county, in the south-central part of the State. Prospectors have found an exceptionally good prospect by cleaning out an old shaft, which was abandoned years ago. Copper mined in this section was sold in St. Louis before the War. An eastern corporation has spent $15,000 in prospecting.

MONTANA.

Beaverhead County.

Oil Shale.—Much activity is being shown in the location and development of beds of oil shale in Small Horn Canyon, near Dillon. About 11,000 acres of ground are now covered by the stakes of prospectors. The shale has a thickness of 20 to 50 ft. and is accompanied by sandstone and conglomerate, both of which are said to carry some oil. An experimental distillation plant has been erected at Dillon.

Fergus County.

Eagle.—This group of mines has been bonded by Ornbaum & Barnes to S. W. Towner, of Butte, for $50,000.

Kendall Mines.—This property in the North

Moccasin Mountains is being developed by Washington capitalists. An 800-ft. tunnel has been driven along the ore body and drifting is now being done on both sides. Preparations are under way for a 500-ton mill to be operated by electrical power.

(From Our Special Correspondent.)

Ruby Gold Mining and Milling Company.—This company, with a capital of $500,000, has filed its articles with the Secretary of State and County Clerk. The operations are on the North Moccasin, not far from the Kendall property. The incorporators are David Hilger, John P. Barns, Breck Ornbaum, Geo. M. Stone and D. M. Crowley, all of Lewiston. Of the capital $400,000 has been subscribed. This insures the building of another cyanide mill in this district, the ore being similar to that found in the Kendall Mine.

Flathead County.

B. & B. Mine.—A new 1,200-ft. flume has been completed to a point near the mill, and the latter is to be enlarged to provide room for 10 additional stamps.

Gallatin County.

Corundum Deposits.—The discovery of corundum near Belgrade is reported and steps are being taken toward developing the property by Mr. L. S. Ropes, who has been connected with the corundum industry of North Carolina and Ontario.

Granite County.

(From Our Special Correspondent.)

Albion Copper Company.—The main tunnel of this company is in 640 ft. It is the intention of the company to start a shaft on the vein near the entrance to tunnel and to sink 500 ft. The management is negotiating for a plant of machinery capable of sinking that number of feet. Eastern parties have taken a large block of stock.

Bluebird.—This property, 11 miles south of Flint Station, is being operated under bond and lease by Peter Anderson & Company. Shipments are being made to Tacoma. The mine is being opened up by a tunnel on the vein. Chas. Smiley is the owner.

Jefferson County.

(From Our Special Correspondent.)

Comet Tailings.—The Helena & Livingston Reduction Company will employ the services of a 50-ton traction engine to haul these tailings to the railroad at High Ore Spur, whence they are to be sent to the Peck Concentrator at East Helena for treatment. This material has proven of too low a grade to be moved by team, but it is thought a margin of 40c. a ton can be saved by this method.

Elkhorn Queen.—W. H. Robinson & Company, who have been operating this property on a lease, have surrendered it. During the 18 months it was in operation 18,000 tons of ore was extracted and sent to the mill. The property was worked out down to the 500-ft. level.

Eva May.—Gust. A. Overstrum, who visited this property with a view of examining into the method in practice in the concentrator, has advised the company to make several alterations in the mill. The ore is chalcopyrite. Mr. Overstrum advised a system of screening to take out the fines before passing through the rolls and jigs; heretofore no separation was made. The company will also add 3 Overstrum tables.

Kit Carson.—Frank Annear has secured a lease and bond from the owners and is milling the ore through the Ruby Mill. He has several thousand tons of a fair milling ore blocked out in the mine. Mr. Annear is also running the mill on tailings from the old Ruby and is making a successful recovery on Wilfley tables.

Old Elkhorn.—It is understood that the Longmaids, who purchased this property from the English company for $9,000, have in cleaning up the mill found bullion sufficient to fully pay them for all the property cost. The large accumulation of tailings they have started to treat by cyanide with 5 years' work ahead.

Lewis & Clarke County.

Central Montana.—W. M. Blackford has succeeded Rudolph von Tobal as legal representative of this company in accordance with the recent action of the stockholders in Cincinnati.

Madison County.

(From Our Special Correspondent.)

Clipper Group.—This group at Pony has been sold, including the McKascle property, for a good round sum to interests closely identified with the Amalgamated Company. A large payment has already been made. The full details of this sale will appear in next week's "Journal."

Colorado.—Curley Brothers, of Whitehall, are making arrangements to ship several cars of ore to the smelter at East Helena.

Gold Hill.—Regular shipments are being made from this property to the East Helena Smelter. The ore is hauled 3 miles to the railroad at Parrot. Messrs. Wilson & Hinds, of Butte, are operating this mine. John O'Neil is superintendent. The company has an option on the Bonanza Fraction adjoining, which they are also developing.

Hudson.—This property at Silver Star has recently made a rich strike of gold ore. It is being operated under a lease by John Dullea, who claims the mine is producing $1,000 per day. The lease expires January 1st, 1902.

Meagher County.

(From Our Special Correspondent.)

Copperopolis.—For some cause a suspension of operations on the properties belonging to the Daly Estate has taken place. About all of the miners have been laid off and indications point to a period of idleness.

Ripple.—The American Smelting and Refining Company has been sued for $10,000, the value of 3 cars of ore. The suit was brought by Stalle & McKinnon, of Neihart, who held a lease on a portion of the property. The ore in question, it is claimed, came from their ground and was shipped by the owners of the claim, who are working adjoining ground.

Park County.

(From Our Special Correspondent.)

Crevisse Mountain Mining Company.—The First National Bank of Helena is negotiating with a company formed in the East for the purpose of exploiting this property. It is already opened by several thousand feet of tunnels.

Montana Coal and Coke Company.—Extensive improvements are being made by this company at Horr. One hundred new coke ovens have been put in operation, which will double the coke production. This has been the means of largely increasing the force of miners.

Silver Bow County.

(From Our Special Correspondent.)

Minnie Healey.—The Supreme Court of Montana has ordered that no more ore be removed from this mine until a decision is made on the application of the Boston & Montana Company for an injunction pending the appeal from Judge Harney's recent decision, which was in favor of the Montana Ore Purchasing Company. The hearing upon the application for an injunction was set for August 28th.

Mountain Lion.—Pat. Mullins & Company, who are operating this property on a bond and lease from the State of Maine Mining Company, have 3 ft. of shipping ore in the tunnel. The property is situated about ½ mile above Columbia Gardens, southeast of Butte. The tunnel is 950 ft. long and shows a strong vein 10 to 20 ft. wide. An upraise is being run to the surface for air.

Mountain Chief.—A new lease is about to be secured from the owners of this property by a well-known operator of this district.

NEW MEXICO.

Grant County.

Modoc.—This mine, which is being operated by the Phelps-Dodge people at Fierro, has reached a depth of 260 ft. in the incline shaft. Great quantities of water are being encountered and heavy pumps are required to keep down the flow so as to permit sinking. Three shifts are employed. The bottom of the shaft is in heavy granite quartz through which, until quite recently, progress was slow. Since water has been struck in quantity the ground has improved greatly and better progress is being made.

Republic.—A force of 7 men is employed at this mine quarrying out copper-iron ore and piling it up for future demand. There is a 70-ft. shaft on the ground, at the bottom of which some ore has been extracted. The Republic adjoins the Union Hill works on the south, where the Colorado Fuel and Iron Company is extracting iron ore.

Sapolio.—A. R. Graham has a lease on this claim at Fierro, and has let a contract to sink a shaft. The property lies in a good neighborhood, being midway between the Anson S. and the Modoc group.

Santa Fe County.

Santa Fe Gold and Copper Company.—This company's smelter is now running continuously on ore that averages a trifle better than 4¾% copper and carries in addition about $1.50 each of gold and silver, or a gross value of $18 to the ton. The present cost of mining and treating a ton of ore is not over $7, and the management thinks this can readily be reduced to $6. Less than 0.5% of copper is lost in the slag. It might be added that the plant as built was a very extravagant affair, and a good deal of money might have been saved by a more economical construction.

The present shaft is now being carried down, largely for exploratory purposes. At a depth of 90 ft. the extension encountered a 15-in. vein of sulphides that run from 10% to 15% copper. This will be investigated further. The Santa Fe owns about 3,400 ft. on the strike of this vein. If the deposit proves continuous the company, with a larger equipment, should be able to make a very good profit on even 12c. copper. The operations of the mine are at present handicapped to a considerable extent by lack of transportation facilities. The nearest railroad, the Atchison, is 20 miles away. The 10 tons of matte now being produced daily have to be teamed over this distance as well as the various supplies for the camp, including coke, hauled back. There is a good prospect, however, that a new railroad will pass through the valley a few thousand feet below the mine.

Taos County.

(From Our Special Correspondent.)

The Rio Hondo Copper Company and the Fraser Mountain Copper Company, owning deposits of gold-copper ores, are doing considerable development work, and before long the construction of a smelter, now being built by the former company, and of a concentration plant and matting furnace by the latter company, will enable them to treat their ores on the spot. Dr. W. Brandreth, of New York, is largely interested in the Rio Hindo Company, while Mr. A. C. Twining, of Asbury Park, N. J., is the leading owner of the Fraser Mountain Company. Mr. W. Fraser, of Arroyo Seco, N. M., is general manager of both.

NORTH CAROLINA.

Cabarrus County.

(From Our Special Correspondent.)

Fritz-Honeycut Gold Mine.—This mine, near Gold Hill, is to be sold next month under foreclosure. Mr. Fred Betts, of Colorado, who is the majority stockholder, will likely purchase the property, although it is reported that the Whitney Reduction Company will bid, as the property adjoins theirs on the southwest and is the same vein. The mine is equipped with a 60-stamp mill, concentration and chlorination plant.

Rowan County.

(From Our Special Correspondent.)

The granite industry is fast assuming important growth. J. C. McCandlass, superintendent of Dunns Mountain Quarry, has purchased and is erecting some $25,000 worth of machinery, comprising crushers, polishers, etc. Mr. J. B. Newhall, of New York, is erecting the plant and it will soon be in operation. The Rowan Granite Company has erected a plant at a cost of $20,000 and is shipping some 5 to 10 car-loads per day. Several hundred hands are employed.

Gold Hill and the Union Mine are in full operation producing ore and concentrates. The smelter at the Union is waiting for the first shipments of coke and limestone from Kentucky and Virginia.

Oddie Copper-Gold Mine.—This mine, 10 miles from Salisbury, has just been sold to Gen. Meriman and associates, of Chicago, the consideration being $20,000 cash, which amount was paid through the Salisbury Savings Bank. Mr. R. D. Curd, of Salisburg, N. C., will be superintendent. At present they are figuring with the Mecklenburg Iron Works for the erection of a mill and concentrating plant.

Montgomery County.

(From Our Special Correspondent.)

Iola Mining Company.—This company has just been organized by Walter Murphy, of Salisbury, N. C. The mine is near Biscow and has very rich quartz. The first run of a few days on a 2-stamp mill resulted in a bar of fine gold weighing 28 lbs. The second day's run gave 7 lbs. The company has a capital of $1,000,000 in $5 shares. President, J. Chas. Mosser; vice-president, Alexander Helper; treasurer, Iole Oyster, all of Harrisburg, Pa. M. L. Jones, of Troy, N. C., is superintendent.

Palmer Gold Mine.—This mine, adjoining the old Russell Mine, has opened up a 7-ft. ledge of ore that assays $7 per ton. H. G. Kopplemyre is superintendent, at Glen Brook, N. C.

PENNSYLVANIA.

Anthracite Coal.

A convention of the United Mine Workers of the anthracite region met in Hazleton, August 27th, all the local unions being represented. The convention is still in session. Refusal of some of the coal companies to countenance the card inspection system at the collieries, alleged failure of others to pay the 10% increase supposed to have been granted by every mine owner last spring, local grievances, and the amalgamation of the stationary firemen, engineers, blacksmiths, carpenters and teamsters with the United Mine Workers are the important matters under consideration.

Bituminous Coal.

Ocean.—A fire broke out in this mine at Herminie on August 25th and was discovered through dense volumes of smoke coming out of the shaft. It was soon learned that the fire was burning in several entries and the only plan left was to flood the mine. Water was turned on, but it is expected that the fire will burn for several days. The mine is owned by the Berwind-White Company and is one of the best equipped in the bituminous region. It is filled with electric machinery and the loss will probably be large.

Sharon Coke Company.—This company has purchased from J. V. Thompson and others 1,300 acres of coal and 200 acres of surface in German

township, Fayette County, fronting on the Monongahela River near the Huron Water Company's plant. The consideration is $663,462. The Sharon Coke Company is putting down 2 shafts to develop this coal. It will ship to Sharon, where the coal will be coked for the South Sharon furnaces.

SOUTH DAKOTA.

Lawrence County.

(From Our Special Correspondent.)

Alder Creek Mining Company.—A contract was let this week to James Hartgering, of Deadwood, millwright, for a 60-ton cyanide plant to be erected by the Alder Creek Mining Company on property in the Yellow Creek District, 4 miles south of Deadwood. The ground adjoins the Wasp No. 2 Company's mine, which is considered a great proposition in the cyaniding of low-grade quartzite ores.

Hidden Fortune Company.—In the shaft that this company is sinking on the Brunette Claim, on the tract of ground north of Lead, a 2-ft. vein of free-milling ore has been encountered that assays $16 per ton. It is supposed to be one of a series of veins which form a larger body at a depth of 300 ft. Ore has again been encountered in the Boodlebug Tunnel, which is cross-cutting the ground.

Lime Ore Discoveries.—There is quite an excitement 6 miles north of Deadwood, at what is known as the Half-way House. The same character of lime ore has been found covering a large territory as made the Ragged Top District famous. The ground has been staked for several miles. The strike was made in a district that has never been prospected much.

Pluma Mining Company.—The force of men at the shaft of this company, east of the Homestake Mine, is to be increased. The shaft is down nearly 100 ft.

Pennington County.

(From Our Special Correspondent.)

Cuttysark Mine.—This property has been bonded to local men and it is to be started up again. The mill will also be put in operation.

Elizabeth Mining Company.—The machinery has been taken out of the building formerly used for a concentrating plant at the Bismarck Mine, and Wilfley tables are being put in. A new building is being erected adjoining for 40 stamps.

Ellison Hoist.—The shaft of the Ellison hoisting plant, which has been in course of construction by the Homestake Company for the past 3 years, is down to the 800-ft. level. The boilers and hoisting engines have been ready for work for over a year. The steel cages and the big crusher are now being placed, which will complete the plant. The company has just installed an air-compressor engine, which will take the place of the old steam engine, used to haul the ore cars. The steel shaft for the Father De-Smet Mill at Central City has arrived. It is 8 in. in diameter and 30 ft. long. As soon as it is placed the mill will be commissioned.

Gertie Mining Company.—This is a new mining company, organized through the efforts of E. C. Johnson, of Hill City, and others. The company is capitalized at 1,000,000 shares, par value $1. It is the purpose of the company to erect a steam hoisting plant at the shaft of the Gertie patented ground at the town of Hill City, and a mill in which to treat the ores. The officers of the company are: President, L. G. Wright, Cleveland, O.; first vice-president, F. G. Trude, Chicago; second vice-president, Dr. F. E. Calkins, Hill City; secretary and general manager, E. C. Johnson, Hill City; treasurer, H. H. DeLoss, Chicago; bankers, First National Bank, Deadwood; consulting engineer, S. S. Badger.

Holy Terror.—At present 15 stamps are dropping on ore at the Keystone Mill, on Holy Terror ore. Sixty men are employed and 50 tons of ore are crushed daily. The main shaft of this mine, at Keystone, is to be sunk 100 ft., making a total depth of 1,200 ft. It will be 100 ft. deeper than the deepest shaft of the Homestake Company and will be the deepest shaft in the Black Hills. The company is dropping 15 stamps at the Keystone Mill.

Kerney Strike.—L. M. Kerney, of Rochford, and associates have encountered a ledge of free-milling gold ore on Silver Creek, near Rochford.

Montana Mine.—All of the machinery in the old Montana Mill, near Nahant, has been taken out and shipped away. There were 6 Huntington mills, with large power capacity. The mine is to be worked at a future time, with a process that will handle the refractory ore. There is a large steam hoisting plant at the mine.

Montezuma Mine.—This property has been bonded to Colorado people and it will be taken up the middle of September. There is a ledge of concentrating ore 30 ft. wide, which averages $7 per ton gold.

TENNESSEE.

Polk County.

Tennessee Copper Company.—The Tennessee court has dissolved the temporary injunction granted against the operation of this company's plant. The applicants for the injunction claimed that the fumes from the plant were injurious to health and vegetation in the neighborhood of the works.

TEXAS.

New York interests identified with the oil regions of Beaumont and Corsicana in Texas are much exercised over the bill introduced into the Texas legislature imposing a tax of 2% on the gross receipts of the companies in these two fields. The tax measure is bitterly opposed by the syndicate controlling the bulk of the wells in the districts named, and ex-Governor Hogg is taking an active part in opposing the proposed tax.

UTAH.

Beaver County.

(From Our Special Correspondent.)

The O. K. Mine near Milford shipped this week 12 cars of ore that averaged over 40% copper all way through, and is considered very encouraging by the owners, who had been told they were wasting their time.

Majestic Mining Company.—A shipment of 258 tons high-grade copper ore from the O. K. claim was made recently.

Juab County.

(From Our Special Correspondent.)

Uncle Sam Consolidated.—This company has just sent to market a car of 28 tons of ore from its Humbug claim that will bring between $6,600 and $6,500. The ore runs very heavy in silver, and also carries some lead and a little gold.

Summit County.

Silver King Mine.—A strike of oxidized ore has been made at the 1,300 ft. level after passing through sulphides for a considerable depth. The presence of an oxidized belt beneath sulphides is a remarkable phenomenon.

WASHINGTON.

Ferry County—Republic.

(From Our Special Correspondent.)

Apache.—August 9th a lot of 6,000 lbs. of ore, assaying over $700 per ton, was shipped to the smelter. It carries its highest values in silver and gold principally, with some copper, antimony and lead. This was the first shipment of ore made from the south half of the Colville Indian Reservation.

Black Tail Mine.—A shaft is being sunk on a new ore shoot on that part of the Surprise Vein which runs through the Black Tail ground. It is down 21 ft., immediately under the hanging wall, and exposes about 6 ft. in width of the vein, all quartz of shipping value. About 1 ft. in width of ore on the foot-wall is reported to assay $35 per ton and the balance about $20 per ton.

Butte & Boston.—The elevation of the bottom of the old shaft above that of the new one is 176 ft. An upraise on the vein from the cross-cut from the new shaft struck a flat fault, which was followed a few feet toward the foot-wall side of the vein. The quartz coming in solid, the upraise was continued from that point to an elevation of 174 ft. above the lowest floor of the new workings, and a survey has been made for a connection for ventilation and to put the mine in shape for stoping ore as soon as railroad transportation can be had to smelters. The superintendent reports that the upraise is entirely in ore of good shipping value, with the shoot dipping from the top of the raise, 100 ft. south of the new shaft, toward the pay shoot in the north drift, 100 ft. north of the new shaft. The entire width of the vein at the top of the upraise has not yet been cross-cut.

California Mine.—The shaft is down 375 ft., with 30 in. of very good shipping ore at the bottom. In the 300-ft. level the east drift is in 178 ft. and the west drift 49 ft., the ore being 18 to 48 in. wide and of fine average quality.

El Caliph.—The lessees continue stoping good ore and shipping it to the smelters.

Gold Ledge.—The tunnel is in 430 ft. and shows an entire change of ground at and near the face.

Lone Pine-Surprise.—The new tunnel being driven for the main Lone Pine Vein has about 30 ft. more to run. The discovery of a small stringer of quartz led to the belief for the time being that the vein had already been encountered.

Mountain Belle.—Several ditches have been cut in the surface debris for the vein without locating it. A new shaft is being sunk.

Princess Maud.—The north drift on the bottom level, 660 ft. on the dip of the vein below its apex, is in 30 ft. and gaining 2½ ft. per day. The vein retains its full width, with quartz 3½ ft. wide, of fair shipping value.

Ramore Group.—The cross-cut from No. 2 drift-tunnel level, after passing the 6-ft. vein, cut through 35 ft. of slate and 24 ft. of quartz porphyry, and thence 20 ft. diagonally through another quartz vein, which carries 2 in. of solid chalcopyrite on the foot-wall and considerable of the same material intermixed with galena through the quartz. The ore also carries gold and silver. No assays have yet been made public. The hanging-wall has not yet been reached.

Stevens County.

Marble and Slate.—Earnest & Wilson, who own marble and slate deposits near Valley, are going rapidly ahead with development. A steam power plant with drill and hoist has been sent to the quarry and work will commence there in a few days with a good-sized crew.

WEST VIRGINIA.

Thacker-Logan Coal Field.—The last mine in this field, where a strike and several riots occurred 2 months ago, has been put in operation. The collieries are now running with non-union labor. Many of the strikers are leaving the field.

FOREIGN MINING NEWS.

AFRICA.

Transvaal.

Geldenhuis Deep, Limited.—This company reports the following results for July: Number of stamps working, 55; number of days working, 30; tons crushed, 7,340; yield in fine gold from mill, 2,207 oz.; tons of sands and concentrates treated by cyanide works, 5,676; yield in fine gold from sands and concentrates, 990 oz.; tons of slimes treated, 2,945; yield in fine gold from slimes, 350 oz. The total yield in bullion was 4,177 oz., equal to 3,547 oz. fine gold. The estimated profit was £5,150 for the month.

Robinson Gold Mining Company, Limited.—This company reports for July, 55 stamps working, crushed 7,412 tons ore. The yield from mill was 4,415 oz. of fine gold; from tailings by cyanide, 1,691 oz.; total, 6,106 oz. The net profit was £15,500. The above results are given in fine gold, whereas previous results have been declared in smelted gold. There were, as stated above, 55 stamps working, against 50 working in June. The results for June were 5,899 oz. of smelted gold; profit, £11,000.

ASIA.

India—Mysore.

The output of the Kolar Gold-field for July is reported at 42,071 oz. crude. For the 7 months ending July 31st the total was 294,368 oz., which compares with 282,516 oz. for the corresponding period in 1900; showing an increase of 11,852 oz., or 4.2%. The production this year was equal to 264,931 oz. fine gold, or $5,476,124.

The reports for the various mines show the following results for July, in crude ounces: Mysore, 13,790 oz.; Champion Reef, 13,147 oz.; Ooregum, 7,426 oz.; Nundydroog, 4,695 oz.; Balaghats, 1,600 oz.; Nine Reefs, 605 oz.; Mysore West & Wynard, 555 oz.; Gold-fields of Mysore, 253 oz. About 15% of the gold is recovered from tailings by cyaniding.

AUSTRALIA.

Queensland.

Mount Morgan Gold Mining Company.—This company reports for July that 20,435 tons of ore were treated, the result being 10,170 oz. gold. The average yield was 0.5 oz. to the ton.

EUROPE.

Russia.

A St. Petersburg despatch of August 25th reports that an American engineer, Mr. West, representing Senator Clark, of Montana, has left Kieff, accompanying the managers of the Voskresensky Copper Company on a tour of inspection of the Kirghiz Mines.

MEXICO.

Cobre Grande.—Former Mayor of New York Hugh J. Grant has been appointed receiver of this property at the instance of Alexander W. Hallenborg, a creditor and stockholder of the company. This receivership is the result of a suit now pending against William C. Greene, the Greene Consolidated Copper Company, the Cobre Grande Copper Company and the Cananea Consolidated Copper Company, affecting the title to the mine of the Cobre Company, which it is alleged the company has been deprived of in the course of litigation in which Mr. Greene and the Greene Consolidated Company were prominent factors.

COAL TRADE REVIEW.

New York. Aug. 30.

Anthracite.

The anthracite market is quiet but strong. There are no disturbing elements and prices are generally maintained. No one is cutting the circular rates, so far as can be ascertained. The 10c. advance scheduled for September 1st causes no disturbance. The trade has been able to absorb quietly the very large production. Retail dealers in the East report an unsually large trade for the season. In fact, they say that an unusually large proportion of customers

are putting in their winter stocks, so that there is almost a rush.

In the Western trade trouble is found in getting coal enough. The shipments to lake ports are kept down on this end because of short car supply; while at Lake Erie ports there is trouble about getting the ore boats unloaded and ready to take coal. The season is now so far advanced that it is very probable navigation will close before all contracts can be filled.

The official statement of anthracite output to July 31st shows for the seven months shipments of 31,219,127 tons, compared with 26,278,596 tons for the corresponding period of 1900; an increase of 4,940,531 tons, or 18.8%, this year.

This great increase has apparently been absorbed without difficulty, and the market shows no signs of excessive supply up to the present time.

The miners' convention is in session at Hazleton this week, and is considering several alleged grievances against the companies. It is not believed that any strike will result, as it is expected that amicable settlements can be reached.

Bituminous.

The Atlantic seaboard soft coal trade is in good condition. In fact, the demand is generally above the supply. Washouts along the mainline roads have delayed transportation very badly during the past week, and, as we are told, some of the roads are just now on a one-track basis at some places. Consequently, the movement of cars both to and from the mines is interrupted, and for one or two days charters have been entirely shut down. On the other hand, the trade does not look for a good running supply of cars at the mines for the near future, even when the breaks on the roads are remedied.

Demand for coal in the far East is considerable, and there is a large quantity going into this territory. We learn that there is a possibility of some demurrage accruing with vessels not able to get a berth, owing to the overcrowding at the ports.

Along the Sound trade is improving, though it is not up to the old-time activity for this locality. New York Harbor business seems to be of a small character, as the amount of coal being consumed has fallen off from previous years.

All-rail trade is quite active, owing to the heavy demand. Transportation from mines to tide is contingent upon the relaying and repair of tracks at the washouts. The same applies to the car supply. In the coastwise market vessels are scarce and in demand. Freight rates, however, are unchanged, as follows, from Philadelphia: To Boston, Salem and Portland, 70c.; Providence, New Bedford and the Sound, 60c.; Wareham, Newburyport and Bangor, 85c.; Lynn and Gardiner, 80c.; Portsmouth and Bath, 75c.; Dover, $1.15 and towages; Saco, $1 and towages. Ten cents above these rates is asked at the lower ports.

Birmingham. Aug. 26.

(From Our Special Correspondent.)

There is considerable improvement in the coal market in this State and more coal is being produced now than for the past two months. In Bibb County the mines are being run to their fullest capacity, while at several points in Walker, Jefferson and Blount counties the same conditions prevail. At some places a scarcity of miners is reported. Some new mines are being opened in the State and other improvements being made. The Sloss-Sheffield Steel and Iron Company is making preparations to remove several hundred convicts from Coalburg, in Jefferson County, to Littleton, in Walker County, where new mines will be opened. The Sloss Company owns several thousand acres of coal lands in that county. A large stockade is now being constructed for the convicts and the mines will be under way shortly. At Littleton, near the property of the Sloss Company, several smaller coal companies have openings and are working them steadily. The mines of the Tennessee Coal, Iron and Railroad Company at Pratt City are working steadily. The Bessemer Land and Improvement Company, which owns and operates mines in Bibb County, in the Blocton District, during the past week closed contracts for about 76,000 tons of coal with the Western Railway of Alabama and the Florida East Coast Line, delivery to be made as the fuel is needed. This company is also filling an order in Texas, the coal being shipped via Pensacola and by steamer.

The Excelsior Coal and Coke Company was incorporated during the past week in this city and the old properties of the Coaling Coal and Coke Company in Tuskaloosa County have been secured, and will be operated by this concern. The only labor troubles existing in mining circles are at Carbon Hill, where 150 men are still out. The mines in the district are operating, however, with men who do not belong to the United Mine Workers of America.

Cleveland. Aug. 28.

(From Our Special Correspondent.)

After a battle drawn out over a month the coal shippers to Milwaukee this week acceded to the demands of the vessel owning contingent on the great lakes for an increase in the rate from 40c. to 50c. The break came Saturday, when the Hocking and Shawnee Valley shippers broke away from the coal shippers' organization which had been formed to contest the advance and at that time six boats were placed. Since then all of the shippers except the Pittsburg Coal Company, which ships exclusively from the Pittsburg District, have paid the rate. The big organization still holds out against the advance and while contending for the 40c. rate is doing without boats for the Milwaukee trade. The first cargoes were taken to poor docks, but on Monday the regulation docks also decided to pay the better rate and it might be said that it has been established beyond a peradventure.

The movement of coal is very heavy now to all ports in the upper lake district. The increased demand for grain boats out of Chicago has sent more tonnage to Lake Michigan, making it possible for the Milwaukee and Chicago shippers to obtain more boats. Since the advanced rate has been paid and the fight is over the shippers are in hopes of catching up on their contracts during the next four weeks. At the end of that time boats will be in larger demand in more paying trades and it will be a problem whether the coal shipprs can get enough boats to meet their requirements. Naturally it is expected that September will be the banner coal shipping month of the year. Duluth rates hold firm at 35c., with a free movement of coal.

Pittsburg. Aug. 28.

(From Our Special Correspondent.)

Coal.—Almost all the mines along the Monongahela River are closed, the suspension of operations being due principally to the strike of steel workers. Many of the railroad mines are also idle. The bulk of the coal that is being mined is shipped to Cleveland for the northwestern trade. No quotations of prices are being announced, but it is understood that rates are lower than they have been for two years. There is a falling off in trade and independent concerns are competing with the railroad coal combination for what business there is to be had under the present dull conditions.

Connellsville Coke.—The effect of the big steel strike is being shown in the production of coke. At all the plants of the H. C. Frick Coke Company and other concerns of the United States Steel Corporation the working time has dropped from six to five days a week. The production last week was 210,328 tons, a decrease of 27,963 tons. Of the 21,747 ovens in the region 19,983 are active and 1,764 are idle. Prices remain unchanged. Furnace coke is quoted at $1.75@$2 and foundry at $2.25@$2.50 a ton. The shipments for the week aggregated 10,499 cars, distributed as follows: To Pittsburg and river tipples, 3,978 cars; to points west of Pittsburg, 4,340 cars; to points east of Connellsville, 2,181 cars. This was a decrease of 546 cars compared with the shipments of the previous week.

Shanghai, China. July 24.

(Special Report of Wheelock & Co.)

Coal.—Owing to the continuous rains in Japan there is every probability of a good many mines being flooded, according to cable advices. Welsh Cardiff shows some inquiry. In Sydney Wollongong there is not much life. Arrivals of all kinds of coal during the fortnight ended July 24th were 21,052 tons. We quote, per ton, as follows: Welsh Cardiff, 20 taels ($13.40); Australian Wollongong, 12.50 taels ($8.38); Japan, Takasima, Namazuta and Miike, all contracted for, but other sorts, 6@7 taels ($4.02@$4.69); Chinese Kaiping, for navy, $16; locomotive, $14; household, $12; No. 1 slack, $9.50; No. 2 slack, $7.50, and No. 3 slack, $6.50.

Kerosene Oil.—There has only been a hand to mouth business done. Stocks are 758,500 cases American, 782,000 cases Russian, and 182,500 cases Dutch; total, 1,723,500 cases. We quote, per case, as follows: American Devoe's, 1.69½ taels ($1.14); Russian Anchor Chop, 1.57½ taels ($1.05); Star & Crescent Chop, 1.58 taels ($1.06); bulk oil, loose, 1.17½ taels (79c.), and in 2 tins, 1.55 taels ($1.04); Sumatra Langkat, loose, 1.17 taels, and in 2 tins, 1.55 taels.

Foreign Coal Trade. Aug. 30.

A considerable movement of coal to the West Indies and South America is reported, while some is also going to Mediterranean ports.

Some rates quoted recently are: Newport News to River Plate, $3.12 per ton; Norfolk to Marseilles, $2.40; Philadelphia to Marseilles, $2.46; to Algiers, $2.52; to St. Lucie, $2; to Trinidad, $1.80.

The total imports of coal at the port of Genoa, Italy, in 1900, were 2,455,623 tons. Of this, 2,360,384 tons were from Great Britain, 93,147 tons from the United States, and 2,092 tons from other countries.

The German coal syndicates are insisting upon maintaining prices, notwithstanding the general decline in trade. The price of average coking coal for the remainder of 1901 has been fixed at $2.50 per ton at mines. Furnace coke price is $4.05 per ton at ovens.

Messrs. Hull, Blyth & Company, of London and Cardiff, report, under date of August 17th, that at Cardiff a healthy tone has characterized the coal market during the week, coal continuing to be very scarce for prompt shipment. Prices are: Best Welsh steam coal, $5.04@$5.16; seconds, $4.68; thirds, $4.32; dry coals, $4.08; best Monmouthshire, $4.20@$4.32; seconds, $3.84@$3.96; best small steam coal, $2.88; seconds, $2.52; other sorts, $2.16.

The above prices for Cardiff coal are all f. o. b. Cardiff, Penarth or Barry, while those for Monmouthshire descriptions are f. o. b. Newport, exclusive of wharfage, and are for cash in 30 days, less 2½% discount.

The freight market has experienced a further decline, rates to the Mediterranean being especially weak. Some rates quoted are, from Cardiff: To Marseilles, $1.40; Genoa, $1.44; Naples, $1.62; Port Said, $1.68; Singapore, $3.60; Las Palmas, $1.44; St. Vincent, $1.62; Rio Janeiro, $3.48; Santos, $3.78; Buenos Ayres, $3.72.

CHEMICALS AND MINERALS.

(For further prices of chemicals, minerals and rare elements, see page 280.)

New York. Aug. 30.

Heavy Chemicals.—With the expected early resumption of work at the glass factories, there continues a good demand for alkali and caustic soda for shipment. New 1902 business is noted in domestic high-test caustic soda at quotations below. Bicarbonate soda is still in good export request. Sal soda does not lack attention, and domestic makers are hustling to fill orders. Bleaching powder finds ready sale, and as importers' holdings are only moderate, the market is firm. Prices per 100 lbs. are as below:

Articles.	Domestic. F.o.b. Works.	Domestic. In New York.	Foreign. In New York.
Alkali 58%.	75@82½	....	.....
" 48%.	82½@87½	....	....
Caustic Soda, high test....	$1.90@$1.92½	.....	.....
powd. 60%.	.....	2.75	.....
70@74%.	.....	2.85	.....
98%.	....	3 25	3.75@4.00
Sal Soda.....	.55	.65	67½
" " conc.	1.25@1.50	....	1.75
Bicarb. Soda.	1.05@1.10	.....	1.37½@1.75
" " extra	3.25@3.50	.....	.....
Bleach. Pdr., Eng. prime.	.....	....	2.10 @2.25
other br'nds	.....	....	1.90@2.00
Chl. Pot. cryst	....	8.25@8.37½	9.75 @10.00
" powd.	....	8.37½@8.50	10.25 @10.75

Acids.—Excepting for the usual season contract deliveries trade is generally quiet. Blue vitriol is stiff, as makers ask up to $5 per 100 lbs., which is too high to permit of any material increase in exports. Foreign consumers are making better inquiry for early 1902 shipments, but exporters seem unwilling to book contracts with makers at present high prices.

Quotations are per 100 lbs. as below for large lots in carboys, delivered in New York and vicinity:

Acetic, No.8.....$1.60	Nitric, 38°.....$4.25
Blue Vitriol, bbls.4.75@5.00	Nitric, 40°..... 4.50
Muriatic, 18°..... 1.35	Nitric, 42°..... 4.87½
Muriatic, 20°..... 1.45	Oxalic .....5.50@5.75
Muriatic 22°..... 1.60	Sulphuric, 66°..... 1.20
Nitric, 36°..... 3.87½	Sulphuric, 60° 1.05
	" bulk 50° ton 14.00

Brimstone.—New York imports in the past two weeks aggregated over 5,000 tons, most of which was already under contract. Spot best mixed seconds are held at $22.25@$22.50 per ton, while shipments are firmer at $22, owing to the higher freight market.

Pyrites.—Business is growing. Domestic is moving satisfactorily on contract, while Spanish ore is finding a large sale. This week 2,300 tons iron pyrites were imported at New York from Huelva, Spain, while several good-sized cargoes have recently been reported at Philadelphia and Baltimore. A leading importing house at New York has contracted for freight room from Spain away into next year at a rather low rate. September and October chartering from Huelva to Pensacola is noted at 8s. 6d. ($2.04), which is lower than was taken not long ago. We quote, per ton, as follows: Mineral City, Va., lump ore, all sold, and fines, $4.20 per long ton. Charlemont, Mass., lump, $5, and fines, $4.75. Spanish pyrites, 12@14c. per unit delivered ex-ship New York and other Atlantic ports. Spanish pyrites contain from 46@51% of sulphur, American from 42@44%.

Sulphate of Ammonia.—Firmer at $2.72½@$2.75 per 100 lbs., for 24@25% gas liquor.

Nitrate of Soda.—The market has been rather quiet, as arrivals have been heavy, the steamer "Rokeby" reporting at New York with 39,000 bags, while the "Warfield" is due with 33,000 bags, and the "Croydan" sailed for this port on August 24th with 38,825 bags. On the same day the "Mark Ariel" sailed for Savannah, Ga., with 10,125 bags. On the coast the market is firmer, but prices in New York have not advanced in sympathy, for deliveries to consumers in the past 8 months have been so large that

little new business is now being done. Spot nitrate of soda is nominal at $1.90@$1.92½ per 100 lbs., and futures, $1.95.

Phosphates.—The foreign demand continues quiet, and prices show little change. In the producing centers attention is directed to the Tennessee fields, where the combination is carefully estimating the rock on the various properties it has under option. So far the combination controls a large per centage of the blue rock in Hickman County, the brown rock in the Mount Pleasant District, Carter's Creek and Gallatin, and the gray rock of Perry County. Efforts are being made to extend prospecting in these localities, but the heavy rains of the past few weeks have interfered. When in regular working order the consolidated concern will prove a dominant factor in the domestic as well as the export trade.

In Florida, miners are still unwilling to book any large contracts for 1902 at present prices, anticipating more money. Nevertheless, some business for next year's delivery has been done.

South Carolina shows an improvement in shipments, and a slightly better inquiry is noted from abroad, but at rather low prices. Recently 4,000 tons were sent to the United Kingdom.

Abroad, sales agents for competing foreign phosphates are very aggressive, especially those who handle the African stuff. Quotations are as below:

Phosphates.	Per Ton F. o. b.	C. i. f. Un'd Kingdom or European Ports. Unit.	Long ton.
*Fla. hard rock (77@80%)	$6.50@7.00	7 @7½d	$10.92@11.70
*Fla. land pebble (68@73%)	3.85@4.00	6 @6¼d	8.40@ 8.57
*Fla. Peace River (58@63%)	2.50@2.75	5 @5¼d	6.00@ 6 60
†Tenn. 78@80%, export.	3.50@3.85	6¾@7d	10.53@10.92
†Tenn.....78% domestic.	3 00	.....	.....
†Tenn.....75% "	2.75	.....	.....
†Tenn.....70% "	2.25	.....	.....
§So. Car. rock, dried rock	3.50	.....	.....
Algerian, rock...(63@70%)	.....	6@6¼d	8.04@8.70
Algerian, rock...(58@63%)	.....	5¼@6d	6.60@7.20
Tunis, Gafsa.....	.....	5¼@5½d	6.30@6.60
.....	.....	.....	.....

* Fernandina, † Mt Pleasant. § On vessels, Ashley River.

Freight rates from Florida ports are about as follows: To Baltic ports, $5; Continental, $3.60@$3.90; Mediterranean, $4.20@$4.56; United Kingdom, $3.84.

From Savannah, Ga., to Continental ports, $3.18.

Concerning the Chilean market, Messrs. Jackson Brothers, of Valparaiso, write us under date of July 13th as follows: The market has continued very quiet without any alteration in prices. Transactions only amount to about 500,000 qtls., due principally to ship owners holding out for higher freights. Sales have been made in 95% for this year's delivery at 6s. 5½d. alongside, and for different monthly lots in 1902 at 6s. 3d. alongside, closing with sellers at these rates. In 96% we have no sales to report. The production during the six months ended June 30th only reached 13,412,000 qtls., or, say, 2,000,000 qtls less than for the same period last year. We quote 95% at 6s. 5d. and 96% at 6s. 7½d. ordinary terms for any delivery this year. The price of 6s. 5d., with an all-round freight of 27s. 6d., stands in 8s. 6d. per cwt., net cost and freight, without purchasing commission.

Liverpool. Aug. 21

(Special Report of Joseph P. Brunner & Co.)

The market for chemicals is steady in tone and there is a moderate volume of trade reported.

Soda ash is in fair demand and prices are firm. Quotations vary as to market, and range for tierces may be called about as follows: Leblanc ash, 48%, £5 15s.@£6; 58%, £6 2s. 6d.@£6 7s. 6d. per ton, net cash. Ammonia ash, 48%, £4 10s.@£4 15s.; 58%, £4 15s.@£5 per ton, net cash. Bags, 5s. per ton under price for tierces. Soda crystals are fairly brisk at generally £3 7s. 6d per ton, less 5% for barrels, or 7s. less for bags, with special terms for certain export quarters. Caustic soda is not active, but a steady business is passing at recent range, as follows: 60%, £9@£9 5s.; 70%, £10@£10 5s.; 74%, £10 10s.; 76%, £10 17s. 6d.@£11 per ton, net cash.

Bleaching powder is quiet at nominally £7 per ton, net cash, for hardwood, with special quotations for Continental and other export markets.

Chlorate of potash is rather dull at nominally 3⅛d.@3¼d. per lb., net cash.

Bicarb. soda is unchanged in price and steady at £6 15s. per ton, less 2½% for the finest quality in 1 cwt. kegs, with usual allowances for larger packages; also special terms for certain export markets.

Sulphate of ammonia continues in light supply and holders still quote £10 17s. 6d.@£11 per ton, less 2½% for good gray 24@25% in double bags f. o. b. here.

Nitrate of soda is rather firmer for forward delivery, while spot range is without any change, at £9@£9 5s. per ton, less 2½% for double bags f. o. b. here, as to quantity and quality.

IRON MARKET REVIEW.

New York, Aug. 3, 1901.

Pig Iron Production and Furnaces in Blast.

Fuel used	Week ending Aug. 31, 1900. F'ces.	Tons.	Aug. 30, 1901. F'ces.	Tons.	From Jan.,'00. Tons.	From Jan.,'01 Tons.
An'racite & Coke.	220	239,575	235	297,325	9,737,515	10,082,828
Charcoal.	20	5,375	22	6,625	242,342	272,713
Totals..	240	244,950	257	303,950	9,979,857	10,355,541

While the strike is still the chief point of discussion, general opinion points to its early termination, and to the failure of the movement. In some directions the stoppage of mills has had little effect on the trade; in others—as tubes, sheets, bars, hoops and especially tin-plates—there is an actual scarcity, and premiums have been paid where early deliveries are essential.

Expert opinion puts the current shortage in production of the United States Steel Corporation, as compared with the normal output, at 20% in steel ingots and 40% in finished material. As the mills were generally running up to their capacity, it will take some time to catch up with their contracts, even if the strike ends soon.

The demand for foundry iron continues very good. Bessemer pig is not selling just now, and furnaces must be accumulating stocks.

Birmingham. Aug. 26.

(From Our Special Correspondent.)

The markets in Alabama show some improvement, and the furnacemen appear more satisfied than last week. There was some business transacted during the past week, and while it does not aggregate a very large amount all told, still it was better than the previous week and brought out better prospects for the immediate future. In finished iron and steel circles the conditions are exceedingly good, with prospects bright for some time to come.

The following quotations are given: No. 1 foundry, $11@$11.25; No. 2 foundry, $10.25@$10.50; No. 3 foundry, $10@$10.25; No. 4 foundry, $9.50@$9.75; gray forge, $9@$9.25; No. 1 soft, $11@$11.25; No. 2 soft, $10.25@$10.50.

There is a very good call for steel, and the steel plant at Ensley is working 5 of its 10 open-hearth furnaces. Every effort is being made to complete the improvements about the plant in order that the production can be improved and the increasing demand met. The various steel using industries in the Birmingham District report continued activity.

In finished iron and steel, shipments from the rolling mills are heavy. The demand for plate and boiler plate is extraordinarily good.

Buffalo. Aug. 28.

(Special Report of Rogers, Brown & Co.)

The uneven conditions which have been a feature of the market for a few weeks past continue to exist. Locally there is a short supply of foundry iron and the local furnaces are turning away business because of their inability to handle it. The same conditions prevail at some other furnaces south and west of here, but there are other sections not so well provided for which are vigorously pushing for orders, so between the price views of the two there is a larger range than ordinarily exists. We quote below on the cash basis, f. o. b. cars Buffalo: No. 1 strong foundry coke iron, Lake Superior ore, $15.50; No. 2, $15; Southern soft, No. 1, $15.25; No. 2, $14.75; Lake Superior charcoal, $17.50; coke malleable, $15.

Cleveland. Aug. 28.

(From Our Special Correspondent.)

Iron Ore.—The ore shippers are finding now that the other trades are demanding their share of the boat capacity of the lakes and in consequence the number of vessels applicable to the movement of ore is less. The situation is not such as to cause any alarm in ore shipping circles, for there has been a vast surplus of tonnage al summer for the ore movement and there has hardly been a time when 25% of the vessels employed could not be spared and still enough boats be available to keep the receiving docks constantly employed. Duluth grain shippers are now offering rates that better the wild ore rate from that point and the Chicago shippers are fast approaching the mark where it will be more profitable to carry wheat out of there than ore from Escanaba and still the amount of tonnage active on the lakes will be sufficient to keep all the available material moving without inconvenience to any shipper. It is hardly expected, therefore, that the brisk demand in other trades will affect the carrying rates on ore. Shippers are still taking all of the boats offered and the movement remains very free, so heavy in fact that there is a constant congestion at the receiving ports. The rates remain as they have been quoted all summer, at 80c. from Duluth; 70c. from Marquette, and 60c. from Escanaba. The selling price of ore has not changed, quotations being $4.25 on bessemer and $3 on non-bessemer and Mesabi ores.

Pig Iron.—Foundry grades are still selling in good-sized lots for immediate delivery, with no large contracts demanding deliveries past the middle of September. Buyers are still timid about the future, being uncertain as to the outcome of the strike of the Amalgamated Association and the possible effect of it upon the trade. Quotations are for No. 1, $14.25; No. 2, $13.75. Some basic has been sold at $15 at Pittsburg furnaces. Bessemer is about off of the market. Nominal quotations of $15.25 are made.

Finished Material.—The possible product of the plants engaged in turning out sheets has been sold up for a long time ahead and the only material on the market now which is available for immediate delivery is contained in the stock-piles. A report is current that the Westinghouse Electrical Company has imported quite a large quantity of sheets from England, in the absence of a supply sufficient for its needs here. The price does not change, as the association has adopted a conservative policy. No. 28 one-pass cold-rolled are quoted at 3.95c., and No. 10 blue annealed out of stock 2.50c. Bars are very hard to obtain, as stocks are low and the demands of the market are far in excess of the producing capacity of the active mills. Those who placed contracts some time ago are now begging for deliveries ahead of the stipulations in the contracts and in consequence the mills are very busy. The prices do not change from 1.50c. on steel bars and 1.55c. on iron bars, with quotations out of stock ranging from 1.70c. to 1.75c. Angles are not offered for delivery before November and beams and channels are available but a little time before that. The mills are rushing every possible ton of material to meet requirements. The prices hold firm at 1.70.

Pittsburg. Aug. 28.

(From Our Special Correspondent.)

The iron and steel markets appear to be a trifle better this week than last. While there is absolutely nothing doing in bessemer pig iron, there was an improvement in forge and foundry iron. Two blast furnaces of the National Steel Company at New Castle were closed this week on account of a lack of business and a considerable amount of bessemer pig iron is being stocked in the yards. While the nominal quotation is $15@$15.25, Valley furnaces, it is believed a lower figure would be readily accepted. There is no change in the price of forge and foundry iron and several thousand tons were sold this week. One of the features of the market is a decline in the fancy prices that have been offered for sheets, indicating that the strike has not had as serious effect on this branch of the iron and steel industry as was expected. Prices are still above the quotations made before the strike, but No. 28 gauge can now be had at 3.75c. for delivery in 30 days and 4c. is quoted for spot shipments. Bessemer steel billets continue scarce and no sales were recorded. Business in steel bars and plates continues active and prices are unchanged. Ship-building concerns have placed orders for several thousand tons of plates during the week and about 5,000 tons of steel bars were sold. Tin-plate is the most seriously affected by the strike and a premium of $3 a box over the price fixed by the American Tin-Plate Company for the third quarter is being offered. No new business is being accepted at less than $7 a box for standard coke plates. This week closes the seventh of the strike affecting the sheet steel, hoop and tin-plate industries and the third week of the general strike. While there have been all kinds of rumors of peace negotiations nothing definite has been agreed upon by either side. The officers of the National Civic Federation are taking an active interest in a movement to reopen the conference between representatives of the United States Steel Corporation and the Amalgamated Association, but so far without success. The strike is being vigorously conducted by both sides. Results of the week are decidedly in favor of the big steel corporation. Additional mills are in operation at the Painter and the Lindsay & McCutcheon works of the American Steel Hoop Company and the Monessen steel hoop works may be started this week. A fair start was made at the Star plant of the American Tin-Plate Company. Agents for the corporation are actively engaged in the East employing men to take the places of strikers. Amalgamated men, however, are also active and have succeeded in sending a number of the new men away. The publication at the opening of the strike that the Amalgamated Association had a membership of over 50,000 and a treasury of about $250,000 has been shown to be incorrect. The actual figures have just been made public. The membership was less than 14,000 at the beginning of the strike and there was but $74,000 in the treasury. The announcement was a surprise to the manufacturers. No one here will give a prediction as to how long the contest will continue.

Pig Iron.—There were no sales of bessemer pig iron and quotations are $15@$15.25, Valley furnaces. About 1,000 tons of gray forge were sold at $13.75, Pittsburg, and 3,000 tons of foundry No. 2 at $14@$14.25.

Steel.—Bessemer steel billets are unusually scarce and no sales are recorded this week. The

price quoted is $24.50@$25. There is a good demand for tank plates and several lots were sold at $1.60c. About 5,000 tons of steel bars were sold at 1.50@1.60c.

Sheets.—There is a heavy demand for sheets, but the supply is better and prices are not as strong as last week. No. 28 gauge is quoted at 3.75c. for delivery in 30 days and 4c. is asked for prompt shipment. The American Sheet Steel Company is operating all of its non-union plants to their fullest capacity.

Ferro-manganese.—The leading producer is still out of the market and sales of the foreign product continue to be made at $53.50@$55.

Philadelphia. Aug. 29.

(From Our Special Correspondent.)

Pig Iron.—There is less activity in bessemer and basic and more in foundry and forge. Buyers of the latter grades are below the average in stocks for this season and the probabilities are that September business will be of satisfactory proportions. Parties having No. 2 to sell are negotiating with large consumers and if there is no hitch some long-running contracts will be closed in a few days not far from $14, though some business has been done 75c. higher for best makes. There will also be a stocking up in No. 1 foundry, to all appearances, as founders are looking around and some offers have been made. The entire tone of the market is satisfactory. No. 1, best brands, brings $16, but large purchases will be made at not more than $15.50. Mill men are quite interested in forge and large transactions are probable at $13.50@$13.25. There is no news regarding basic or bessemer.

Muck Bars.—Manufacturers have taken large orders since last week. One buyer agreed to pay $29.

Billets.—People who want billets within three months find it necessary to speak farther ahead. There has been an unusually heavy demand of late for finished steel and this is driving mills into the market for both basic open-hearth and bessemer. Prices range from $27 for bessemer to $30.50 for basic open-hearth.

Bars.—Notwithstanding all Western bar mills are on full time, orders are dropping into Eastern markets from there; while our local requirements as well as orders from New England are broadening out. The smaller users of bars have no stock to speak of, and all our Eastern capacity is sold up on a basis of 1.50@1.60c. for iron and steel.

Sheets.—The stringency in the sheet iron situation is worse. Western suspension of production must be greater than we have figured out. Most small consumers have been trotting around all week after more prompt delivery. Quotations are nominally 2.80@4.00c., but buyers have paid more.

Pipes and Tubes.—Prices are advancing all around and will go higher. There is no material to be had except after long waits. Buyers who are loaded up with extensive engagements calling for tubing are in a bad way.

Skelp.—Skelp is worth whatever manufacturers ask for it. Everything is upset, but mill men are doing remarkably well for their customers considering the pressure.

Merchant Steel.—To all appearances there is going to be another rush of orders, owing to the very large consumption this summer and also because of the modified policy of many large consumers, who are carrying larger stocks than usual. Prices are a trifle higher for moderately early deliveries.

Plates.—All statements from plate manufacturing sources this week lean the same way to a coming heavier demand. Prices hang around 1.80c. for plates and universals; 2@2.10c. for flange.

Structural Material.—Officials who speak for this branch believe that just as soon as the strike is settled there will be a rush of orders for winter and even spring delivery.

Steel Rails.—There is a rumor to-day that large girder orders are at hand, but it is impossible to ferret out any details. Trolley line enterprises are certainly numerous enough to make a basis for reports of this kind. Railroad men here do not hope for more reasonable rail quotations; in fact, they will be glad to buy at $28 for standard sections.

Old Rails.—Quotations are $19 for iron and $16.50 for steel.

Scrap.—The larger dealers in scrap agree that there will be a scramble for heavy scrap this autumn and winter and one or two are already on the war-path for best chances. Choice railroad scrap will bring $19; heavy steel scrap, $17; machinery cast, $14; No. 2 light scrap, $13.

New York. Aug. 30.

The local market shows but slight changes, and is quiet. The little flurry in pipes is the only sensation. An early end of the strike is now looked for.

Pig Iron.—Nothing is doing beyond the usual small sales, and prices are firm. We quote for tidewater delivery: No. 1 X foundry, $15.25@$15.75; No. 2 X, $14.75@$15.25; No. 2 plain, $14@$14.50; gray forge, $14@$14.25. For Southern iron on dock, New York, No. 1 foundry, $14.75@$15.25; No. 2, $14@$14.50; No. 3, $13.25@$13.75; No. 4, $12.75@$13.25; No. 1 soft, $14.75@$15.25; No. 2, $14@$14.50.

Cast Iron Pipe.—Prices are unchanged. No large contracts are on the market just now, but small orders are still coming in.

Bar Iron and Steel.—The market continues strong. We quote 1.48c. for common bars in large lots on dock; refined bars, 1.58c.; soft steel bars, 1.65c.

Plates.—Demand holds steady. We quote for tidewater delivery in car-loads: Tank, ¼-in. and heavier, 1.78c.; flange, 1.88c.; marine, 1.98c.; universals, 1.78c.

Pipes and Tubes.—Advances in pipes are reported, due to local scarcity. The stores are generally short on stocks and cannot replenish them, owing to the stoppage of work by the strike. Prices are irregular, depending largely upon the necessities of the buyer.

Structural Material.—While prices do not show any change, the demand is large. The requirements for fall and winter work are heavy. We quote for large lots at tidewater as follows: Beams, 1.75c.; chanels, 1.75c.; tees, 1.80c.; angles, 1.75c.

Steel Rails and Rail Fastenings.—There is little doing in the local market, though some heavy orders for girder rails are said to be pending Standard sections are quoted at $28 at Eastern mills; light rails at $28@$30, according to weight. Spikes are 1.80c.; splice bars, 1.55c.; bolts, 2.60@2.70c.

Nails.—A good demand continues, with prices the same as for months. We quote for large lots on dock: Wire nails, $2.53; cut nails, $2.13.

METAL MARKET.

New York. Aug. 30.

Gold and Silver.

Gold and Silver Exports and Imports.
At all United States ports in July and year.

Metal.	July. 1900.	July. 1901.	Year. 1900.	Year. 1901.
GOLD.				
Exports	$3,272,739	$2,785,571	$33,713,411	$32,276,797
Imports	11,263,332	1,658,808	27,889,199	17,451,778
Excess	I. $7,990,593	E. $1,126,763	E. $5,824,212	E. $14,680,019
SILVER.				
Exports	4,913,658	3,838,447	35,284,144	32,272 449
Imports	3,344,093	2,217,112	22,193,181	17,352,378
Excess	E. $1,569,565	E. $1,621,335	E. $13,090,963	E. $14,920,071

These figures include the exports and imports at all United States ports, and are furnished by the Bureau of Statistics of the Treasury Department.

Gold and Silver Exports and Imports, New York
For the week ending Aug. 29th, 1901, and for years from January 1st, 1901, 1900, 1899 and 1898.

Period.	Gold. Exports.	Gold. Imports.	Silver. Exports.	Silver. Imports.	Total Excess, Exp. or Imp.
We'k	$4,521	$177,238	$729,335	$60,410	E. $496,158
1901..	25,799,839	2,042,122	21,420,179	2,569,047	E. 42,608,849
1900..	36,380,455	1,706,213	26,026 894	3,391,811	E. 57,309,325
1899..	11,550,543	8,139,906	18,827 793	2,306,661	E. 19,331,769
1898..	4,975,427	72,372,134	22,110,067	2,039,985	I. 51,326,625

The gold and silver exported this week went to London; the imports were from Central and South America and the West Indies. Included in the silver exports were $12,270 Mexican dollars.

The United States Assay Office in New York reports the total receipts of silver at 36,000 oz. for the week. This makes a total of 2,254,000 oz. from January 1st.

Prices of Foreign Coins.

	Bid.	Asked.
Mexican dollars	$ .45¾	$ .49
Peruvian soles and Chilean pesos	.43	.46
Victoria sovereigns	4.86	4.88
Twenty francs	3.86	3.88
Twenty marks	4.74	4.85
Spanish 25 pesetas	4.78	4.82

Financial Notes of the Week.

Business generally continues quiet, with no special changes to be reported. The probable failure of the steel strike has encouraged trade. In New York, money is less abundant, as the call for money in the interior, usual at this season, is reducing the bank reserves and cutting down the balances available for loans.

The statement of the United States Treasury on Wednesday, August 28th, shows balances in excess of outstanding certificates as below, compared with the corresponding day last week:

	Aug. 21.	Aug. 28.	Changes.	
Gold	$104,642,007	$105,530,506	I.	$888,439
Silver	25,397,722	24,598,198	D.	799,524
Legal tenders	13,920,859	13,976,584	I.	55,725
Treas. notes, etc.	54,557	82,798	I.	28,241
Totals	$144,015,145	$144,188,086	I.	$172,941

Treasury deposits with national banks amount-

Imports and Exports of Metals.

Port.	Week, Aug. 28. Expts.	Week, Aug. 28. Impts.	Year 1901. Expts.	Year 1901. Impts.
New York. (N. Y. Metal Exchange.)				
Aluminum.....long tons	.....	.....	77	100
Antimony ore... " "	.....	.....	.....	806
" regulus.. " "	.....	35	19	771
Chrome ore.. " "	.....	.....	.....	350
Copper, fine .... " "	973	801	39,009	12,989
" matte... " "	284	.....	6,301	50
" ore..... " "	.....	2,368	.....	31,525
Iron ore ..... " "	.....	3,400	.....	6,975
" pig, bar, rod " "	115	16	13,213	3,424
" plates, sheets " "	.....	.....	611	126
Lead..... " "	.....	1,570	19,697	35,495
Manganese, ore. " "	.....	52	100	7,128
Metals, old, scrap " "	.....	59	1,352	2,032
Composition... " "	.....	9	3,779	527
Nails. " "	669	.....	7,755	.....
Nickel ..... " "	10	.....	1,289	72
" ore, matte " "	.....	.....	.....	27,273
Pipe, iron & steel " "	914	.....	14,390	.....
Railr'd material. " "	430	.....	15,355	1,708
Steel bars, plates " "	142	355	32,565	10,130
" rails. ..... " "	3,457	.....	68,855	.....
" wire..... " "	642	.....	66,633	.....
Tin ..... " "	.....	480	230	13,891
" and black plates" "	.....	1,192	7	22,245
Zinc..... " "	.....	25	586	887
" dross..... " "	6	.....	543	.....
" ashes, skim " "	45	.....	870	.....
" ore..... " "	.....	.....	13,871	.....
Baltimore. (Special Correspondence).				
Antimony.....long tons	.....	.....	.....	10
Chrome Ore..... " "	.....	.....	.....	6,536
Copper, fine..... " "	155	.....	5,379	4,381
Iron pig, bar, etc. " "	.....	255	1,485	5,432
" ore..... " "	.....	.....	.....	275,805
Manganese ore.. " "	.....	.....	.....	54,932
Nails ..... " "	1	.....	415	.....
Pipe, iron & steel " "	.....	.....	1,022	.....
Spiegeleisen..... " "	.....	1,500	.....	8,995
Steel, bars, etc.. " "	11	.....	36,666	189
" wire ..... " "	.....	16	854	191
" rails..... " "	.....	.....	72,992	.....
Tin..... " "	.....	.....	.....	175
" and blackplates" "	.....	120	.....	574
Philadelphia.				
Antimony.....long tons	.....	.....	.....	22
Chrome ore..... " "	.....	.....	.....	831
Copper, fine..... " "	15	.....	730	.....
" ore..... " "	.....	.....	.....	24,866
Iron, pig, bar.... " "	.....	.....	267	5,939
" ore..... " "	.....	.....	210	176,815
" pipe ..... " "	.....	.....	1,932	.....
Lead..... " "	.....	.....	200	10
Manganese ore.. " "	.....	.....	.....	6,819
Metals, old ..... " "	.....	.....	39	1,458
Nails ..... " "	17	.....	129	.....
Pipe, iron & steel " "	.....	.....	3,843	.....
Railroad material " "	.....	.....	557	.....
Steel, bars, etc . " "	.....	.....	5,601	433
" rails ..... " "	.....	.....	9,011	.....
" wire ..... " "	10	.....	405	.....
Spiegel & ferro . " "	.....	.....	.....	.....
Tin ..... " "	.....	.....	.....	360
" and black plates" "	.....	239	.....	2,086
Zinc ore. ..... " "	.....	.....	2,064	.....
" dross ..... " "	.....	.....	185	.....
" ash..... " "	.....	.....	.....	.....

Total United States.

Articles.	June. Expts.	June. Impts.	Year, 1901. Expts.	Year, 1901. Impts.
Antimony. ....Long tons	..	139	....	701
" ore.... " "	.. ..	... ...	22	130
Copper, in all forms ... " "	9,842	6,731	48,027	59,818
Iron, pig & bar.. " "	3,716	8,139	57,234	36,751
" ore..... " "	6,659	92,924	12,898	338,613
Iron & steel plates " "	1,982	481	23,579	1,191
Iron & steel rails " "	31,515	12	100,295	467
" " wire " "	6,496	247	39 463	2,815
Lead, in all forms " "	7,444	5,483	51,299	56,084
Manganese ore and oxide. .... " "	.....	13,394	.....	81,481
Nickel " & matte " "	168	.....	1,251	23,289
Nails, cut..... " "	759	.....	8,181	.....
" wire ..... " "	1,819	.....	11,378	.....
Quicksilver.... " "	13	.....	192	....
Steel billets, rods, etc..... " "	1,154	2,664	32,630	12,251
Tin ..... " "	37	3,112	1,605	18,194
" & black plates " "	21	3,651	498	25,069
Zinc ..... " "	158	67	2,045	259
" ore ..... " "	5,655		19,564	

Import Duties on Metals.

The duties on metals under the present tariff law are as follows: Antimony, metal or regulus, ¾c. a lb. Lead, 1½c. a lb. on lead in ores; 2½c. a lb. on pigs, bars, etc.; 2½c. on sheet, pipe and manufactured forms. Nickel, 6c. a lb. Quicksilver, 7c. a lb. Spelter or zinc, 1½c. a lb. on pigs and bars, 2c. on sheets etc. Copper, tin and platinum are free of duty.

ed to $103,973,877, showing an increase of $1,897,670 from last week.

The silver market has been steady on the advance to 27d. caused by Eastern demand.

The statement of the New York banks—including the 63 banks represented in the Clearing House—for the week ending August 24th, gives the following totals, comparison being made with the corresponding week in 1900 and 1899:

	1899.	1900.	1901.
Loans and discounts.	$756,789,900	$817,402,300	$887,837,400
Deposits	858,135,100	901,356,300	968,149,600
Circulation	14,072,400	28,586,000	29,007,600
Specie	172,381,100	173,531,200	182,926,600
Legal tenders	54,531,200	75,696,800	77,258,900
Total reserve	$226,912,300	$249,228,000	$260,185,500
Legal requirements	214,533,775	225,339,075	242,037,400
Balance, surplus	$12,378,525	$23,888,925	$18,148,100

Changes for the week, this year, were increases of $3,027,100 in loans and discounts, $3,520,400 in deposits ,and $1,215,500 in specie; decreases of $31,400 in circulation, $609,200 in legal tenders, and $273,800 in surplus reserve.

The following table shows the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars and comparison is made with the holdings at the corresponding date last year:

	1900.		1901.	
Banks.	Gold	Silver.	Gold.	Silver.
N. Y. Ass'd	$173,531,200	.....	$182,926,600	.....
England	161,776,995	.....	195,355,925	.....
France	449,625,370	$227,394,945	490,220,320	$224,262,995
Germany	146,855,000	75,655,000	157,275,000	81,020,000
Aus.-Hun.	188,495,000	49,820,000	198,300,000	55,280,000
Spain	68,445,000	83,975,000	70,015,000	85,290,000
Neth'l'ds	24,345,000	29,505,000	31,255,000	27,894,500
Belgium	14,175,000	7,090,000	15,290,000	7,645,000
Italy	77,330,000	8,350,000	79,260,000	9,615,000
Russia	394,490,000	38,275,000	346,910,000	36,770,000

The returns of the Associated Banks of New York are of date August 24th, and the others August 22d, as reported by the "Commercial and Financial Chronicle" cable. The New York banks do not report silver separately, but the specie carried is chiefly gold. The Bank of England reports gold only.

Shipments of silver from London to the East for the year up to August 15th, 1901, are reported by Messrs. Pixley & Abell's circular as follows:

	1900.	1901.	Changes.
India	£3,540,752	£4,903,310	I. £1,362,558
China	511,756	398,685	D. 113,071
The Straits	319,744	79,976	D. 239,768
Totals	£4,372,252	£5,381,971	I. £1,009,719

Arrivals for the week, this year, were £114,000 in bar silver from New York, £9,000 from Chile, and £2,000 from Australia; total, £125,000. Shipments were £191,000 in bar silver to Bombay, £5,000 to Madras, and £22,677 to Hong Kong; total, £218,777.

Indian exchange is stronger, and there has been a better demand for Council bills in London. The average rate obtained was 15.94d. per rupee.

Average Prices of Silver per oz. Troy.

Month.	1901		1900.		1899.	
	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.
January	28.97	62.82	27.30	59.30	27.42	59.36
February	28.13	61.06	27.49	59 76	27.44	59.42
March	27.94	60 63	27.59	59.81	27.48	59.64
April	27 30	59 29	27.41	59.59	27.65	60.10
May	27.43	59 64	27.56	59.96	28.15	61.23
June	27 42	59 57	27.81	60.42	27.77	60 43
July	26.96	58.46	28.23	61.25	27 71	60 26
August	.....	.....	28.13	61.14	27.62	60.00
September	.....	.....	28.85	6 .63	27 15	58.89
October	.....	.....	29.58	63.83	26.70	57.98
November	.....	.....	29.66	64.04	27 02	58.67
December	.....	.....	29.68	64.14	27.21	58-99
Year	.....	.....	28.27	61.33	27.44	59.58

The New York prices are per fine ounce; the London quotation is per standard ounce, .925 fine.

Average Prices of Metals per lb., New York.

Month.	Copper.		Tin.		Lead.		Spelter.	
	1901.	1900.	1901.	1900.	1901.	1900.	1901.	1900.
Jan	16.2	15 58	26.51	27.07	4.35	4.68	4.13	4 65
Feb.	16.38	15.78	26 68	30.58	4.35	4.675	4.01	4.64
March	16.42	16.29	26 03	32.90	4.35	4.675	3.92	4.60
April	16.43	16.76	25.93	30.90	4.35	4.675	3.98	4.71
May	16.41	16.34	27.12	29.37	4.35	4.181	4.04	4.53
June	16 38	15.75	28.60	30 50	4.35	3.901	3.99	4.29
July	16.31	15.97	27.85	33.10	4.35	4.030	3.95	4.28
August	.....	16.35	.....	31.28	.....	4.250	.....	4 17
Sept	.....	16.44	.....	29.42	.....	4.350	.....	4.11
October	.....	16.37	.....	28.54	.....	4.350	.....	4.15
Nov.	.....	16.40	.....	28 25	.....	4.350	.....	4.29
Dec	.....	16.31	.....	28.94	.....	4.350	.....	4.25
Year	.....	16 19	.....	29.90	.....	4.37	.....	4.39

The prices given in the table for copper are the averages for electrolytic copper. The average price for Lake copper for the year 1900 was 16.52c.; for the month of January, 1901, it was 16 77c.; for February, 16 90c; for March, 16.91c; for April, 16.94c; for May, 16.91c.; for June, 16.90c; for July, 16.61c.

Other Metals.

Daily Prices of Metals in New York.

August.	Sterling Exchange.	Silver. Fine oz. Cts.	Silver. London, Pence.	Copper. Lake, cts. ₩ lb.	Copper. Electrolytic ₩ lb.	Copper. London, £ ₩ ton.	Tin, cts. ₩ lb.	Lead, cts. ₩ lb.	Spelter. N. Y. cts. ₩ lb.	Spelter. St. L. cts. ₩ lb.
21	4.86	58¼	26⅞	16½	16¼	....	26¼	4.32½@4.37½	4.00	3.85
26	4.86½	58⅜	26⅛	16½	16¼	67⅛	26¼	4.32½@4.37½	4.00	3.85
27	4.86½	58½	27	16½	16¼	66⅝	25⅞	4.32½@4.37½	4.00	3.85
28	4.86¼	58½	27	16½	16¼	66½	25¾	4.32½@4.37½	4.00	3 85
29	4.86¼	58¼	27	16½	16¼	66½	26	4.32½@4.37½	4.00	3.85
30	4.8615	58½	27	16½	16¼	66⅛	26¼	4.32½@4 37½	4.00	3.85

London quotations are per long ton (2,240 lbs.) standard copper which is now the equivalent of the former g. m b's. The New York quotations for electrolytic copper are for cakes, ingots or wirebars; the price of electrolytic cathodes is usually 0.25c. lower than these figures.

Copper.—There is considerable activity both in the home and foreign markets. Consumption in this country is very heavy, and abroad it appears to be improving. But few of the manufacturers have covered their fall requirements, and there is a disposition on the part of others to do so now. Prices remain unchanged, Lake copper at 16½c.; electrolytic in cakes, bars or ingots at 16¼c.; cathodes, 16c.; casting copper, 15⅞c.

The London market for speculative sorts has been dull. It closed last week at £67 1s. 3d. for spot and £67 8s. 9d. for three months. It opened 1s. 3d. higher, but on Tuesday declined to £66 12s. 6d. for spot and £67 for three months, and the balance of the week ruled about £66 10s. for spot and £67 three months prompt, closing at £66 11s. 3d. for spot, and 7s. 6d. higher for three months.

Refined and manufactured sorts we quote: English tough, £72@£72 10s.; best selected, £72 @£72 10s.; strong sheets, £83; India sheets, £79; yellow metal, 6½d.

Tin.—A fair business has been done, especially for prompt shipment. Stocks throughout the country are depleted, and were it not for the tin-plate strike, purchases would be of large volume. As it is, the individual transactions are not very heavy, but a great many manufacturers are purchasing. At the close we quote spot, 26¼c.; September, 25¾c.; October, 25½c.

The London market, which closed last week at £116 5s. for spot and £111 10s. for three months, was dull during the first part of the week, selling on Tuesday as low as £115 for spot and £110 2s. 6d. for three months. On Thursday it advanced to £117 17s. 6d. spot and £114 10s. three months, closing at £117 15s. for spot, £114 2s. 6d. for three months.

Lead is quiet and prices remain unchanged at 4.27½@4.32½c. St. Louis and 4.32½@4.37½c. New York.

Spanish lead is firmer, it being quoted £11 13s. 9d.@£11 15s., and English lead 2s. 6d. higher.

Spelter.—Buyers have covered their wants for the present, and in consequence there are but few transactions to report. We quote 3.85c. St. Louis and 4c. New York.

The foreign market is unchanged, good ordinaries at £17 and specials 5s. higher.

Antimony is unchanged, Cookson's at 10@10½c.; Hallett's 8⅝c.; Italian, Hungarian, Japanese and U. S. Star, 8½c.

Nickel.—The price continues firm at 50@60c. per lb., according to size and terms of order.

Platinum.—Consumption continues good and prices are strong. Ingot platinum in large lots now commands $20.50 per ounce in New York. In London prices are about on a parity with the New York rate.

Chemical ware (crucibles and dishes), best hammered metal from store in large quantities, is worth 80c. per grain.

Minor Metals and Alloys.—Wholesale prices, f. o. b. works, are as follows:

Aluminum.	Per lb.		Per lb.
No. 1, 99% ingots	33@37c.	Ferro tungsten (37%)	32c.
No. 2, 90% ingots	31@31c.	Magnesium	$2.75@$3
Rolled sheets	42c up	Manganese (over 99%)	$1.00
Alum.-bronze	20@23c.	Mangan'e Cop (20% Mn)	32c.
Nickel-alum	33@39c	Mangan s Cop (30% Mn)	38c.
Bismuth	$2.05	Molybdenum (Best)	$1.75
Chromium (over 99%)	1.00	Phosphorus	50c.
Copper red oxide	50c.	American	70c.
Ferro-Molyb'um (50%)	$1.25	Sodium, metal	65c.
Ferro-Titanium (10%)	90c.	Tungsten (Best)	69c.
Ferro-Titanium (25%)	$1 0		

Variations in prices depend chiefly on the size of the order.

Quicksilver.—The nominal quotation in New York continues $51 per flask, but the metal can still be had for somewhat less, $49@$50, according to size of order. In San Francisco the quotations are $47@$48 per flask for domestic trade, and $43@$44 for export. The London quotation continues £9 per flask, with the same price named from second hands.

Quicksilver imports into Great Britain for the seven months ending July 31st were 2,485,004 lbs., against 330,614 lbs. for the corresponding period in 1900. Exports were 1,204,489 lbs., against 1,003,623 lbs. in 1900. The surplus of imports this year was 1,481,381 lbs., while there was a surplus of exports of 673,009 lbs. last year.

LATE NEWS.

A dispatch from Colorado Springs, Colo., August 29th, says: "J. Pierpont Morgan and a New York associate have purchased the Bassick gold mine, situated in Custer County, Colo., for $700,000. The mine was closed 10 years ago after producing $2,500,000, owing to disagreements between owners. It will be reopened. A shaft 900 ft. deep will be sunk. The Denver & Rio Grande Railroad will build a branch to the district. The section is already active, owing to the prospective reopening of the Bassick."

This dispatch is given as a rumor, there being no time to ascertain its authenticity.

A dispatch from Helena, Mont., August 29th, says: "The Supreme Court has denied the application of the Boston & Montana Company for an order requiring the Montana Ore Purchasing Company to furnish additional bond in the Pennsylvania case, and for an injunction restraining F. A. Heinze from operating the Minnie Healy Mine pending an appeal from the recent decision of Judge Harney. The court was unanimous in the belief that the $1,300,000 bond, now operative in the Pennsylvania case, was sufficient, so far as showing had been made. In the Minnie Healy case, Justice Piggot dissented. The court unanimously struck from the records the sensational affidavits involving Judge Harney. These affidavits were filed in the lower court, in support of a motion for a new trial now pending. Work on the Minnie Healy Mine, which has been closed since Monday, will now be resumed."

A despatch from Austin, Tex., August 29th, says: "The bill providing for a tax on the gross receipts of oil producers, refiners, and dealers in Texas was to-day reported favorably by the Committee on Revenue and Taxation of the House of Representatives. The proposed tax, however, is reduced from 2 to 1%. The measure as amended is unsatisfactory to the oil men, and they will make a strong fight against its passage.

"Mayor D. P. Wheat, of Beaumont, in his statement before the committee, said that the celebrated Lucas gusher, which was the first well brought in in the field, and was reported to have a capacity of 70.000 bbls. a day, has ceased flowing. He said that the well was clogged up, and that there were two other former gushers in the field in the same condition. He cited these facts in illustration of the position taken by the oil men that the business is in an experimental stage, and should not have a tax burden placed upon it."

A dispatch from Hazleton, Pa., August 29th, says: "With the adoption of the report of the Committee on Resolutions, the United Mine Workers have practically finished their work. The convention will adjourn at noon August 30th. The resolutions recommended written instead of verbal agreements with all the coal companies, strict compliance with the present contract, continuation of the card inspection system as now conducted, and instructed President Mitchell and the district presidents to confer with the coal companies regarding card inspection and violation of agreements, and to arrange for a joint conference. These officers are vested with power to declare a strike if contracts now in force are not lived up to. The resolutions call attention to the advantage resulting to both miners and operators from a written contract covering the wage rate for a stated period and specifying the conditions of labor. The committee alleges that, instead of agreeing to the request for a written agreement, the various companies posted notices of an indefinite character. The resolutions state that in many instances written notices posted and verbal agreements made by superintendents with committees have been violated under various pretexts. Employees who derived the benefit of the 10% increase have, it is claimed, been discharged and new men placed in their positions at the old wages. The committee states in the resolutions that if the miners are required to live up to their agreement, then the coal companies should do likewise, instead of seeking to destroy the mine workers' organization by intimidating the men. Hereafter the miners will insist upon written agreements which shall be signed in joint convention before the existing contract expires. They will also insist upon the present working card being continued until the question of a general working badge for the bituminous and anthracite regions is decided upon at the next national convention.

SLATE TRADE REVIEW.

New York. Aug. 30.

The list of prices per square of No. 1 slate, standard brand, f. o. b. at quarries in car-load lots, is given below:

Size, inches	Monson or Br'nville.	Bangor.	Bangor Ribbon.	Alb'n or Jackson Bangor.	Chap'n Keyst'ne	Peach Bottom.	Sea Gr'n	Unfad'g Green.	Red.
	$	$	$	$	$	$	$	$	$
24 x 14	6.50	3.50	3.00	3.00	...	5.10	3.00	...	.....
24 x 12	6.60	3.50	3.00	3.00	3.80	5.25	3.00	3.75	.....
22 x 12	6.60	3.50	3.25	3.00	...	5.25	3.00	3.75	.....
22 x 11	6.50	3.75	3.25	3.00	4.00	5.25	3.00	4.00	.....
20 x 12	6 90	3.75	.....	3 00	....	5.25	3.00	3.75	.....
20 x 11	6.80	.....	.....	3.25	...	5.25	3.00	.....	.....
20 x 10	6.80	4.25	3.50	3.25	4.00	5.35	3.00	4.25	10.50
18 x 12	6.80	3.75	.....	3.00	.....	5.25	3.00	3.50	.....
18 x 11	7.00	....	....	.....	.....	...	3.00	3.75	.....
18 x 10	7.00	4.25	3.50	3.25	4.00	5.35	3.00	4.00	10.50
18 x 9	7.00	4.50	3.50	3.25	4.00	5.35	3.00	4.25	10.50
16 x 12	6.80	3.75	.....	3.00	.....	.....	2.90	3.50	....
16 x 10	7.00	4.00	3.50	3.25	4.00	5 25	2.90	4.00	10.50
16 x 9	7.00	4.25	.....	3 25	4 00	5.35	2.90	4.25	10.50
16 x 8	7.00	4.50	3.50	3.25	4.25	5.35	2.90	4.25	10.50
14 x 10	6 60	3.75	3.25	3.00	.....	5 25	2.70	3.75	10.50
14 x 9	6.50	.....	.....	.....	.....	....	2.70	3.75	10.50
14 x 8	6 60	3.75	3.25	3.00	4.00	5.10	2.70	4.25	10.50
14 x 7	6.40	3.75	3.25	3.00	3.75	5.10	2.50	4.25	10.50
12 x 10	5.75	....	... .	....	.. .	...	2.50	3.25	....
12 x 9	5.60	.....	.....	....	....	....	2.50	3.25	.....
12 x 8	5.50	3.50	.....	2.85	.....	4.85	2.50	3.50	9.00
12 x 7	5.00	3.25	.....	2.85	3 25	4.85	2.00	3.50	9.00
12 x 6	4.80	3.25	.	2.85	3.25	4.75	2.00	3.50	8.50

A square of slate is 100 sq. ft. as laid on the roof.

School material continues to move in large quantity at satisfactory prices. Statistics of shipments from Slatington, Pa., the leading producing center of school slates, show an increase over last year of at least 9%, owing to the greater demand in the United States. Roofing slate meets with a good sale, and in some quarters demand exceeds the production of desirable sizes. New quarries are constantly being opened, and from latest accounts the new Berkeley County, W. Va., slate deposits are being worked actively by Pennsylvania people. In the Peach Bottom District some Baltimore, Md., capitalists have entered to develop new territory, and shipments are expected to grow materially, as the Maryland & Pennsylvania Railroad is operating on the standard-gauge system.

MINING STOCKS.

Complete quotations will be found on page 276, 277 and 278 of mining stocks listed and dealt in at:

Boston.	Salt Lake.	Montreal.
Colo. Springs.	San Francisco.	London.
New York.	Spokane.	Mexico.
Philadelphia.	St. Louis.	Paris.
	Toronto.	

New York. Aug. 30.

August closes with fewer outside buyers in the market than a month or two ago, notwithstanding the opportunity to purchase mining stocks at low prices. The anxiety of insiders to take profits on a fluctuating market has made operators cautious. Meantime the mines are working in a regular way. In the Cripple Creek District of Colorado new dividend-payers are added to the list, and companies are consolidated for economical reasons. These consolidations invariably yield stockholders a good profit on their investments. Our dividend list, published on another page, shows the truth of this statement. It is noteworthy that although many of the Cripple Creek shares dealt in here and on the Colorado Springs Exchange yield from 6% to 36% in dividends annually, the majority sell at below $1 and only three above, Portland being the highest at $3@$3.10. The 3,000,000 shares of this company are held by comparatively few people, among whom are the officers and directors. Since incorporation it has paid $3,847,080, or 128%, on its capital, which places it at the head of all the Cripple Creek dividend-payers. Second place is held by Elkton Consolidated, which is worth around $1.80 per share. Its dividends amount to $1,129,461, being over 45% on its issued capital of $2,500,000. Of course the big Stratton's Independence Mine, with $3,312,855 to its credit on an issued share capital of $5,000,000, should be given second place, but since it is dealt in only in London, where it is quoted around $5, it does not influence the Eastern market. A stock that is widely held both in New York and Western cities is Isabella, which has witnessed many fluctuations, owing to the uncovering of some unexpected rich ore bodies at different levels. Not many months ago it soared to $1.50, but to-day it has been bought at 54c., and a short time ago at less. Isabella stockholders have reaped some good dividends since its organization, and to-day the company has to its credit a total of $742,500, which is equal to 33% on a $2,250,000 capital.

A word may also be said about the Leadville stocks dealt in, as some of them have paid handsomely. A leading stock in this group is Iron Silver, which is held largely by Easterners. Up to December, 1900, this company declared $2,550,000, while its 500,000 shares of $20 par are worth to-day about 60c. a share, showing a depreciation in the market value of the property in the past 8 months of about 20%. Yet holders of the stock seem unwilling to sell any large quantity, believing in the future productive value of the property. Breece is another closely held stock which sells only occasionally, the last transaction being reported at $1.70. Up to June, 1901, the company paid $120,000 on a share capital of $5,000,000.

The California gold shares are dormant. Holders here of Standard Consolidated are not tempted to sell around $3.30, when the San Francisco quotation is strong at $3.50. Moreover, the company is paying quarterly dividends at the rate of 4% annually on an issued capital stock of $1,783,940. It is noteworthy that this property yielded in dividends to date a total of $4,017,619, equal to nearly 225% on the present share-capital.

Utah stocks at one time were favorites here, but since the big companies have either listed their shares in Salt Lake or Boston, and where British capital is interested, in London, the New York market has done little in them. One of the few stocks still called is Ontario Silver, in which New York investments are heavy. Sales, however, are comparatively small at $9.50@$10, as holders are receiving good dividends. Since organization the company has declared $14,677,500, which is equal to 97.8% on the share-capital of $15,000,000. The latest dividend declared is payable next month, and amounts to $15,000, or 10c. per share.

The situation in the copper group is practically a repetition of what occurred at the last recovery in prices. Amalgamated still has its inside supporters to keep it above a certain point, and so has Anaconda. The former stock on reported inside buying gained from $120½ to $123¾, but on freer profit-taking slumped to $118 on Wednesday. Anaconda was lower, from $48½ to $46¼, in the same time.

Auction sales were $267,000 first mortgage 5% bonds Virginia Iron, Coal and Coke Company at 35¾; 38 shares Lykens Valley Railroad and Coal Company at $81; 100 shares Issaquah Coal Company at $23¾; 100 shares Northwestern Ohio Natural Gas Company at $30.

Boston. Aug. 29.

(From Our Special Correspondent.)

The market has been much more active than for several weeks past, and a good deal of trading has been done. Transactions have been generally moderate in size, making up good totals, however. This is taken as a pretty good sign of an open market, and it looks as if the big people were holding back and giving small operators a chance.

The market was rather irregular, both declines and advances being noted. There was a good deal of pressure to sell Isle Royale, and Arcadian was also offered very freely. Under these conditions both stocks declined. On the other hand, Allouez advanced sharply; it is said that prospects are improving and also that the stock is being bought by some outsiders who want to control the property. This may—or may not—be; at any rate, it helped to lift the quotations.

The Arcadian selling rather puzzles the dealers. It is said that most of the stock offered could be traced to one source. Some say that the insiders have made up their minds to unload and drop the property. Others believe that the drive is being made to prepare for an upward move later. A third theory is that preparations are being made to consolidate with some other companies later. Arcadian was once looked on as promising, and a lot of money was spent on the property. At present it is a speculation only, and it would be a good deal lower but for the Amalgamated interest in it.

To-day the copper share speculation continued fairly active. Mass, Mohawk and Amalgamated were the leaders. Mass rose 2 points, to $29½, reacting to $29¼; Mohawk rose ¾, to $50¼, reacting to $49¼; Amalgamated opened at $120⅝, touched $121⅛, and settled back to $118½. Isle Royale was weak and sold down from $41 to $39, rallying to $39¾; Arcadian likewise was heavy and lost 2 points, to $12, rallying to $12¾; Allouez improved $1⅜, to $6¼, later $5¾; Adventure, after advancing $1, to $28½, lost to $28; Calumet & Hecla, at $725, was 15 points lower than the last previous sale, August 23d; later it sold at $730. Michigan was up $½, at $6½; Old Colony lost to $4¾; Wolverine lost a point, to $65; Old Dominion lost $1, to $33.

The gold stocks do not show much activity, attention being absorbed by the coppers. Announcement was made of the striking of an ore body in what is known as the Knox-Boyle shaft of the Santa Ysabel gold mine. This has caused a revival of interest in that stock, which of late has been threatened with extinction. It is claimed that developments at the property in the near future will prove that the mine has actually turned the corner again.

Colorado Springs. Aug. 24.

(From Our Special Correspondent.)

The principal features of the week are Doctor-Jack Pot, Elkton, El Paso, Gold Dollar, Isabella, Jack Pot, Nugget, Pharmacist, Portland and Work in the Mines; Bonnie Nell, Central, Eclipse, German-American, Mollie Dwyer and Sedan in the preferred prospects; Helen B. and Golden Dale in the prospects, and Acacia in the unlisted.

Doctor-Jack Pot has been the sensation of the week, showing much activity, opening at 62c. and advancing to 82c., then declining to 73½c., with some sales at 72c., seller 30. This stock has gained more than any other stock this week, advancing from one call to another 12c. Trading has been very good in this stock which has been in great demand. Elkton has shown some activity this week, opening at $1.78½ and advancing to $1.82, then declining to $1.75½ bid, with $1.76½ asked, with fair trading. El paso has shown much activity, although it showed a downward tendency, opening at 55c. and declining to 51c. bid, then advancing to 53¼c., with good sales. Gold Dollar has shown an upward tendency this week, with much activity, opening at 19⅞c. and advancing to 20½c., then declined to 19c., but advanced to 20½c. at the last of the week, with very heavy sales. Isabella has also been one of the sensations of the market, especially at the end of the week; it opened at 45c. and advanced to 62c., a gain of 17c. in six days, which shows great activity in this stock, with very good trading. Jack Pot has shown much activity this week, opening at 40c. bid, with 45c. asked, and advanced to 48½c., with some sales at 49c., buyer 30. Nugget has been active this week, opening at 18½c. bid, 19c. asked, and advanced to 20½c. and then declined to 18c. bid, with fair sales. Pharmacist opened at 8⅛c. and has shown much activity, advancing to 9⅞c. bid, with 10c. asked, under fair trading, with some sales at 10c. cash. Portland has shown some activity this week, opening at $3.04 bid, $3.07 asked, and advancing to $3.08, with $3.12 asked under fair trading. Work opened at 13½c. and advanced to 15½c. bid, showing some activity with very light sales. Bonnie Nell opened strong at 8⅝c. and declined to 8c. bid, with 8½c. asked. Although this stock has declined, it has shown some activity, with fair trading.

Central has shown unusual activity, both declining and advancing. It opened at 8½c. bid, and advancing to 9c., then declined to 8⅛c. bid, with 8⅜c. asked, under good trading. Eclipse has also shown unusual activity this week, at first showing an upward tendency and then a downward tendency, and at last an upward tendency, opening at 11½c., advancing to 12¾c., but declined to 11⅝c. and then increased to 13⅝c., with good sales. German-American opened at 4¼c., and advancing to 4⅞c. bid, with 5⅛c. asked, then declining to 4⅝c., and closing at 4½c., with some sales. Mollie Dwyer has shown a downward tendency this week, opening at 6¾c. and declining to 6¼c., with good trading, although some of the trading was in "shorting" the stock, one block of 29,000 shares sold at 6¼c., seller 30. Sedan has been rather active this week, opening at 6½c. and advancing to 7c. bid, with 8c. asked, under fair trading. Helen B. has shown an unusual activity this week, opening at 3⅝c. and advancing to 4¾c., then closing at 4⅝c., with unusual good trading. About 200,000 shares of this stock changed hands this week. Golden Dale opened at 1½c. and advanced to 1⅝c., then declined to 1½c., showing much activity, with heavy sales. Acacia has shown but little activity, opening at 15⅝c. and declining to 15c., then closed at 15¼c. under light trading.

The total amount of sales for the week was 2,273,929 shares, with a cash value of $386,269, which is much heavier than the preceding week.

Salt Lake City. Aug. 24.

(From Our Special Correspondent.)

Trading was rather heavier the past week on the Exchange, 538,424 shares of stock changing hands for $427,533. During the first part of the week the bears had things pretty much their own way, but Saturday saw a reaction that brought most of the stocks up. Ore and bullion settlements for the week were $364,000.

San Francisco. Aug. 17.

(From Our Special Correspondent.)

The market has been quiet and dull this week, and prices have been lower on the usual small transactions. Traders let matters alone, and some of them are said to have gone over to oil for the present.

Some quotations noted are: Consolidated California & Virginia, $1.80; Confidence, $1.05; Ophir, 79c.; Silver Hill, 33c.; Challenge, 28c.; Hale & Norcross, 25c.; Sierra Nevada, 13c. Standard Consolidated was held at $3.50, with no sales.

On the Producers' Oil Exchange business is reviving, and this week buyers have been very much in evidence. Transactions were much larger than for several weeks past, and prices have improved.

Some quotations noted are: Hanford, $125; San Joaquin Oil and Development, $9@$9.25; Peerless, $6; Home, $3.85@$3.90; Twenty-eight, $1.50; Reed Crude, 35c.; California Standard, 24c.; Lion, 13c.

It is noticeable that the demand for the stocks of producing companies was very good, and

sales were even better than those of the lower-priced prospects.

London. Aug. 20.

(From Our Special Correspondent.)

Some efforts have been made this week to stir up a little life in the mining market. The recent discovery of the deep level lodes on the Turf Club Estate at Johannesburg has been used for this purpose, and to a small extent prices of most of the South African shares were advanced in consequence. The news of a strike of a lode on one of the West African properties has also been made much of with the same object. I cannot find, however, that much buying has taken place and the activity has been quite superficial. The city is now very empty and everybody is away for their holidays, so that it is not likely that much business will go on for some weeks.

In the West Australian section there is some inclination to hope for a revival in prices, now that the output and management are more settled, and there is some talk of a boom in the autumn. Personally I do not expect that these hopes will be fulfilled, for the Whitaker-Wright collapse will be still before the public and there will be no general inclination to speculate wildly in any class of mining share.

In spite of the dulness of the market, the shares in a couple of American oil companies are being advertised for sale by means of circulars. One is the Arizona Western Oil Company, which has recently been formed to develop oil lands in the Bakersfield District, Kern County, Arizona. No details are given as to the properties, nor as to the directorate, nor how much cash capital has been subscribed. The company claims to be paying a dividend of 2% per month and promises an increase in this rate in the early future. Considerable efforts are being made to place shares in this country, but whether it is the intention to sell treasury stock or vendors' shares is not quite clear. The offer is not at all tempting. The other company is the Sand Fork Petroleum Company, shares in which are being offered for sale by E. R. Holden & Company, a firm newly established in London, but giving New York, Boston and Philadelphia as their American addresses. The properties owned by this company are in Lewis and Braxton counties in West Virginia and the operations are directed from Wheeling. The reports go to show that the daily output is 750 bbls., and that in the near future the yield will be 9,000 bbls. a day. In these future days the yearly profit is worked out at £750,000, and as the capital of the company is only £200,000, the advantages of buying shares at par at the present time are obvious. They are indeed so obvious that it is a wonder any shares are being offered in this country at all. In this case, also, it is not clear from the circulars issued whether it is treasury stock that is being sold or vendors' shares. In any case it is really quite unnecessary to sell shares here if, as the prospectus says, handsome profits are already being made. If the possibilities of the future are so great, why part with either treasury or vendors' shares at all? It would be better to hold on and devote present profits to developments. I expect, however, that a considerable number of shares will be worked off here.

Paris. Aug. 18.

(From Our Special Correspondent.)

The mining stock market continues dull and weak, notwithstanding conditions which ought to favor speculation, and which I have heretofore recounted. There have been no striking incidents during the week. The rupture with Turkey excites only a moderate interest, since no one believes that actual war will result. All things are possible with Turkey, however, and no one can name the result positively.

Reports are current of an agreement between your Amalgamated Copper Company on the one hand and the Rio Tinto, Mansfeld and Boleo companies here. It seems very probable, though the companies on this side deny the existence of any contract.

The foreign merchandise trade of France for the seven months ending July 31st is reported by the Ministry of Commerce as below:

	1900.	1901.
Imports	Fr. 2,852,835,000	Fr. 2,847,046,000
Exports	2,332,095,000	2,409,096,000
Excess, imports	Fr. 520,740,000	Fr. 437,350,000

The imports showed a decrease of 5,789,000 fr., or 0.2%, and the exports an increase of 77,001,000 fr., or 3.3%; leaving a decrease of 82,790,000 fr., or 14.9%. in the import balance. The decrease in imports was in food and manufactures, raw materials showing an increase. The increase in exports was chiefly in manufactures.

A discovery of a deposit of copper ore is reported at Figuig in Algeria, which is in the Ksour Mountains, near the disputed and still uncertain line between Algeria and Morocco. The outcroppings are said to be extensive, and samples taken assay about 5% copper.

One of the prominent subjects now before the public is the bill for pensioning old and disabled workmen. The Chamber of Deputies, after discussing the bill, decided to institute an inquiry during the summer recess to ascertain the opinions of the labor unions on the question. A number of reports have been already received at the Ministry of Commerce, and these are not generally favorable to the scheme, although naturally in favor of the principle of pensions to aged and infirm workmen. Some of the associations denounce the bill in violent language. The National Council of the "parti ouvrier" has issued a manifesto, in which it declares that the bill is a disguised swindle that for 30 years would place at the disposal of a capitalist Government immense sums obtained from the working classes, with which the State would pay off a great part of the National Debt without advantage to workmen. The Council objected to workmen being called on to contribute in any manner to the Pension Fund by an appropriation from their wages, also to the age of 65, at which the pension would be payable, as before that age 94% of the workmen would have died from fatigue, malady or privations. The Council protested against foreign workmen in France being compelled to contribute personally and through their employers while being excluded from the benefits of the fund, and demanded that the age for the pension should be reduced to 55 years, and that the amount should be raised from 300 fr. a year to 365 fr. As proposed, the bill was unacceptable. A manifesto from a committee sitting at the Labor Exchange is also hostile to the bill, declaring that the funds should be obtained from the profits of the masters without any direct contribution from the wages of the workers. Some smaller provincial associations are, however, willing to accept the measure, believing that if the right of workmen to a pension were established, the means might be made acceptable to the working classes.

This shows that partial concessions, like the pension bill, will not satisfy the socialists. They accept no concessions, but demand a complete surrender. At least they are consistent, which cannot be said of some parties.

Azote.

ANNUAL MEETINGS.

Name of Co.	L'cation.	Date.	Place of Meeting.
Am. Sm. & Refi..	.....	Sept.11	Jersey City, N. J.
California Borax.	Cal.....	Sept.12	San Francisco, Cal..
California Gulch.	Colo ..	Sept.14	Leadville, Colo.
Horn Silver.....	Utah....	Oct. 2	Salt Lake City Utah.
Moon Anchor.....	Colo.....	Sept.24	Colo. Springs, Colo.
Pharmacist.....	Colo.....	Sept. 2	Cripple Creek, Colo..
Pleasant Valley Coal.....	Utah....	Oct. 1	Salt Lake City, Utah.
Republic Ir. & St.	.....	Sept.11	Jersey City, N. J.
Sailor Con	Cal.....	Sept.17	San Francisco, Cal.

ASSESSMENTS.

Name of Company.	Location.	No	Delinq.	Sale.	Amt.
Belcher.....	Nev..	70	Sept. 4	Sept.25	.10
Best & Belcher	Nev..	74	Sept. 6	Sept.27	.15
Butte Basin	Cal .	3	Aug. 30	Sept.23	.01
Caledonia	Nev.	50	Sept.18	Oct. 7	.15
California Dredging	Cal..	..	Sept.10	.....	10.00
Chollar	Nev..	56	Sept.19	Oct. 10	.05
Con. St Gothard. ..	Cal..	19	Aug.12	Sept. 2	.10
Dalton.....	Utah	18	Sept.17	Oct. 7	.01
Daylight	Utah	2	July 1	Sept.14	.00½
Dublin.....	Cal..	.	Aug. 31	.....	.01
Eureka Con. Drift	Cal	31	Aug. 15	Sept. 2	.00½
Hanford, Fresno Oil..	Cal..	...	Aug. 31	.....	.05
Kern River Oil.....	Cal..	...	Sept.12	.....	.50
Kings Co Oil	Cal..	3	Aug. 23	Sept.18	.02
Little Bell.....	Utah	...	Sept. 14	Oct. 2	.25
Madsen	Utah	3	Aug. 30	Sept.16	.00¼
Mariposa Com'l & Mg.	Cal	23	Aug. 10	Sept. 2	10.00
Mayflower	Cal..	56	Sept.16	.....	.05
Mexican	Nev..	68	Sept. 5	Sept.26	.10
Occidental.....	Nev..	37	Sept.16	Oct. 7	.05
Ophir	Nev.	81	Aug.13	Sept. 2	.15
Shower Con	Utah	4	Aug.31	Sept.1	.03
Sierra Nevada.....	Nev..	123	Sept.11	Sept.30	.10
Skagit Cumberland C	W'sh	9	Aug. 19	Sept.23	.10
Sonora Quartz	Cal	...	Sept. 6	Sept.22	.01
Tetro	Utah	20	Aug. 7	Aug.31	.01
Utah Con.....	Utah	37	Aug.15	Sept. 5	.05

DIVIDENDS.

Name of Company.	Latest Dividend. Date.	Per share.	Total.	Total to date.
†Ala. Con. C. & I., pf.	Sept. 2	$1.75	$43,750	$350,000
American Coal	Sept. 3	1.25	75,000	1,132,500
*Bald Butte, Mont...	Sept.10	.06	15,000	1,057,148
†Breece, Colo.....	Sept. 3	.05	10,000	130,000
*Croesus Cal.....	Sept. 2	.05	10,000	237,300
*Bunker Hill & Sull..	Sept. 4	.07	21,000	1,242,000
Central Point Oil, Cal.	Aug 26	.02	3,800	26,600
†General Chem., com	Sept 3	1.00	71,679	629,303
*Gwin, Cal.....	Aug. 20	.10	10,000	251,500
*La Fortuna G., Ariz	Sept. 9	.05	12,500	1,028,500
*Mammoth, Utah ..	Sept.10	.05	20 000	1,950,000
Modoc, Colo	Oct. 15	.03	15.000	255,000
†National Lead, pf	Sept.16	1.75	280,820	11,622,740
†Ohio & Ind. Nat. Gas	Sept. 3	1.00	90,000	630,000
Oil City Pet., Cal.....	Sept. 2	.00½	2,500	10,000
Ontario, Utah ...	Sept. 3	.10	15,000	14,677,500
*Pacific Coast Borax.	Aug.31	1.00	19,000	914,500
†Park Steel, pf	Sept. 2	1.75	875,000	.....
§Phila. Gas, pf.....	Aug 31	1.25	99,959	399,836
Rambler-Cariboo, B.C.	Aug.30	.01	12,500	117,500
†Republic I. & S., pf .	Oct. 1	1.75	355.371	3,198,338
*Rocco-Homestake ..	Sept.10	.01½	4,500	49,500
Rockl'd-Rockp't L., pf	Sept. 3	3.50	..	.....
*Silver King, Utah .	Sept.10	.66⅔	100,000	4.325,000
South Winnie, Colo..	Aug. 22	.01	2,500	12 500
*Standard, Idaho....	Aug. 20	.05	25,000	2,365,000
Standard Oil	Sept.15	8.00	8,000,000	112,625,000
*Swansea, Utah	Sept.10	.05	5,000	351,500
†Va.-Car. Chem., com	Sept. 1	1.00	380,300	2,150,000
*U. S. Marble, Wash..	Oct. 15	.03¼	15,000	43,750
U. S Steel Corp., com.	Sept.14	1.00	5,064,734	5,064,734
*Utah, Utah.....	Aug 31	.02	2,000	193,000

*Monthly. †Quarterly. §Semi-Annual.

STOCK QUOTATIONS.

PHILADELPHIA, PA. §

Name of Company.	Location.	Par Val.	Aug. 22. H.	Aug. 22. L.	Aug. 23. H.	Aug. 23. L.	Aug. 24. H.	Aug. 24. L.	Aug. 26. H.	Aug. 26. L.	Aug. 27. H.	Aug. 27. L.	Aug. 28. H.	Aug. 28. L.	Sales
Am. Alkali.....	.....	$50	.....	.....	.75	.....	.....	.....	.....	.....	1.00	.....	.....	.....	500
Am. Cement.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	6.50	.....	.....	.....	25
Bethlehem Iron..	Pa.	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bethlehem Steel	"	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cambria Iron..	"	50	.....	.....	47.50	.....	.....	.....	48.25	.....	.....	.....	.....	.....	20
Cambria Steel...	"	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Susq. I. & S.....	"	10	1.88	.....	.....	.....	2.00	.....	2.00	1.88	.....	.....	.....	.....	1,500
United Gas I....	"	50	.115	.....	115½	.....	115½	.....	1.17	115¼	1.17	.....	117¾	117½	1,608

Total shares sold, 3,653. § Reported by Townsend, Whelen & Co., 309 Walnut St., Philadelphia.

SALT LAKE CITY, UTAH. Aug. 24.

Stocks.	Shares.	Par val.	Bid.	Asked.	Stocks.	Shares.	Par val.	Bid.	Asked.
Ajax.....	300,000	$10	$1.62	$1.62½	Lower Mammoth.	150,000	$ 1	$3.25	$3.60
Albion.....	.....	.....	.....	.59	Mammoth	400,000	25	2.15½	2.21
Alice.....	400,000	25	.87½	.....	May Day.....	400,000	⅝	1.50½	1.50¾
Anchor.....	150 000	10	.....	.....	Northern Light ..	400,000	5	.07	.08
Ben Butler.....	500 000	10	.18½	.18⅞	Ontario.....	150,000	100	10.15	10.30
Boss Tweed.....	250,000	1	.42	.49	Sacramento.....	1,000,000	5	.21	.21¼
Bullion Beck & Ch..	100,000	10	3.00	.....	Shower Con.....	400,000	5	.09	.17
Centennial Eureka..	300,000	25	.....	.....	Silver King.....	150,000	20	.....	88.00
Con. Mercur.....	1,000,000	5	2.75	2.90	Silver Shield.....	.....	.....	.....	.....
Dalton.....	500,000	1	.....	.....	Star Consolidated	500,000	1	.40	.40¼
Daly.....	150,000	20	2.52½	2.69	Sunbeam.....	250,000	1	.40	.69
Daly-West.....	150,000	20	39.65	39.90	Swansea	100,000	5	2.30	.....
Dexter.....	200,000	5	.....	.....	South Swansea....	150,000	1	.56½	.....
Eagle & Blue Bell..	250,000	1	.85	.....	Tesora.....	400,000	1	90	.91¼
Galena.....	100,000	10	.32	.50	Tetro.....	300,000	1	.37½	.40
Grand Central.....	250,000	1	4.75	.....	Uncle Sam Con...	500,000	1	1.89	1.90
Homestake.....	400,000	1	.....	.....	Utah.....	100,000	1	.62½	.70
Horn Silver.....	400,000	25	1.55	2.00	Valeo.....	200,000	1	.18½	.25½
Joe Bowers.....	400,000	1	.05¼	.07	Yankee Con	250,000	0.10	4.00	4.50

ST. LOUIS, MO.* Aug. 19.

Name.	Shares.	Par	Bid.	Ask.	Name.	Shares.	Par	Bid.	Ask.
Am.-Nettie, Colo.....	800,000	$10	$1.05	$1.07	Doe Run Lead, Mo.....	10,000	$100	$125.00	$130.00
Catherine Lead, Mo....	50,000	10	3.50	4.00	Granite Bimetallic, Mt.	1000,000	10	1.75	1.80
Central Lead, Mo.....	10,000	100	130.00	140.00	Kan. & Tex. Coal, Mo..	25,000	100	48.00	51.00
Columbia Lead, Mo...	50,000	10	13.50	13.50	Renault Lead, Mo.....	30,000	10	9.50	11.00
Con. Coal, Ill	50 0.00	100	19.00	21.00	St. Joe Lead, Mo.....	300.000	10	14.50	16.50

* From our special correspondent.

TORONTO, ONT.

Name of Company.	Par val.	Aug. 20. H.	Aug. 20. L.	Aug. 21. H.	Aug. 21. L.	Aug. 22. H.	Aug. 22. L.	Aug. 23. H.	Aug. 23. L.	Aug. 24. H.	Aug. 24. L.	Aug. 26. H.	Aug. 26. L.	Sales
Ontario:														
Golden Star.	1	.03¾	.03¼	.03	.02¾	.03¼	.03	.04	.03	.....	.....	.04	.03	4,000
Ham Reef...	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
British Col.:														
Cariboo MK	1	.26	24	.27	.24	.25½	.24	.26	.23	.....	.....	.26	.22	.....
Center Star.	1	.34	.32½	.33	.32	.33½	.32	.34	.30½	.....	.....	.34	.30	6,000
Crow's N. C.	25	85.00	75.00	85.00	75.00	80.00	75.00	80.00	75.00	.....	.....	80.00	74.00	.....
Deer Trail ..	1	.03	.02¾	.03	.02½	.03	.02½	.03	.02½	.....	.....	.03	.02½	3,000
Fairview....	1	.....	.....	.02½	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mont & Lon	0.24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morrison....	1	.04	.02	.04	.....	.03½	.....	.05	.....	.....	.....	.....	.....	.....
Noble Five..	1	.11	.08½	.11	.08	.11	.07	.10½	.08	.....	.....	.11	.08	.....
North Star..	1	.56½	.50	.56	.50	.56	.50	.55	.50	.....	.....	.55	.50	.....
Payne.....	1	.16	.14½	.16	.14	.16	.14	.17	.14	.....	.....	.18	.14	.....
Rambler	1	.50	.47	.50	.46	.50	.47	.50	.46	.....	.....	.50	.45	.....
Republic....	1	.04	.02½	.04	.....	.....	.....	.04	.03	.....	.....	.04½	.02¾	.....
Virtue.....	1	.12	.10	.15	.12	.23	.18	.23	.18	.....	.....	.20	.16	500
War Eagle Con	1	.12	.10	.15	.12	.15	.12	.18	.12	.....	.....	.14	.12	1,000
Wonderful .	1	.04¼	.03	.04¼	.03	.04	.03	.04¼	.03	.....	.....	.04¼	.03	.....
Winnipeg ..	1	.03	.....	.04	.....	.03	.02¼	.04	.....	.....	.....	.04¼	.....	.....
Develop Co.:														
Can. G. F. S.	0.10	.05½	.04½	.05½	.04½	.05½	.04½	.05½	.04½	.....	.....	.05½	.04½	.....

Total sales, 14,500 shares.

STOCK QUOTATIONS.

NEW YORK.

Name of Company.	Location.	Par val.	Aug. 23. H.	Aug. 23. L.	Aug. 24. H.	Aug. 24. L.	Aug. 26. H.	Aug. 26. L.	Aug. 27. H.	Aug. 27. L.	Aug. 28. H.	Aug. 28. L.	Aug. 29. H.	Aug. 29. L.	Sales
Alamo	Colo.	$1													
Amalgamated c.	Mont.	100	121⅜	119½	122⅝	121	122⅝	12 1/6	121¼	118½	119⅝	118	119		95,250
Anaconda, c.	Mont.	25	47.38	46.50	48.38	47.75	48.50	47.50	47.75	47.00	47.00	46.25	46.75		25,500
Anaconda Gold.	Colo.	5													
Argentum-Jun.	Colo.	2													
Best & Belcher.	Nev.	3													
Brunswick Con.	Cal.	1													
Chollar	Colo.	10													
Chysolite	Colo.	50					.06								800
Comstock T.	Nev.	100					.06½								2,000
Comstock Bonds	Nev.	100							.07	.06					17,000
Con. Cal. & Va.	Colo.	2½			1 90		1.90		1.90		1.80				800
Cripple Cr. Con	Colo.	1			.09										700
Crown Point	Nev.	3													
Hale & Norcross	Nev.	3													
Horn Silver	Utah	20													
Iron Silver	Colo	20													
Isabella	Colo.	1							.54						200
Jack Pot	Colo.	1													
Leadville	Colo.	10					.08		.07						700
Little Chief	Colo.	1							.18						100
Mollie Gibson	Colo.	5													
Ontario	Utah.	100	9.00		9.50	9.25	9.50		10.00						700
Ophir	Nev.	3			.81				.83						500
Pharmacist	Colo.	1													
Phoenix, g.	Ariz.	1			.09		.10		.10		.10				1,500
Portland	Colo.	1													
Quicksilver	Cal.	100	4.00				8.50	8.18	8.50		4.00				900
" pf	Cal.	100									10.00				
Savage	Nev.	2½							.08		.05				100
Standard Con	Cal.	10													500
Union Copper	N. C.	10	5¼	5	5¼	5	5⅛	5¼	5⅛	5⅛	5⅛	5⅛	5⅛	5⅛	

COAL AND INDUSTRIAL STOCKS.

Name of Company.	Location.	Par val.	Aug. 23. H.	Aug. 23. L.	Aug. 24. H.	Aug. 24. L.	Aug. 26. H.	Aug. 26. L.	Aug. 27. H.	Aug. 27. L.	Aug. 28. H.	Aug. 28. L.	Aug. 29. H.	Aug. 29. L.	Sales
Am. Agr. Chem.	U. S.	$100			23½		30¾	30⅜			31	23½			350
Am. Sm. & Ref.	"	100	53½	52⅜	53⅞	52⅜	55⅛	53⅜	55	53¾	54	51⅝	51⅜		47,940
" " " pf		100	101		100½		101⅜	101	101⅛	101	130⅞	100	100½		6,660
Col. Fuel & I.	Colo.	100	98	97½	98½	97½	98	97⅝	98	97½			98		5,250
Col. & H. C.& I.	"	100	20½		21	20⅜	21		20						1,000
Int'l S. Pump	U. S.	100			43⅞	43⅝									3,000
" " " pf		100			86		86⅛	85							600
*Mong. R. Coal.	Pa.	100	14½	14½	14⅜	14½	14⅜	14½	14½	14⅜					430
" " " pf		100	47½	46½			46¾								60
National Lead	U. S.	100	21	20½	21				21						700
" " pf		100													100
National Salt	"	100													
" " pf		100					73½								100
*Pittsburg Coal	Pa.	100	32	31⅜	32	31½	32¾	32⅛	32¼	32⅛					3,241
" " pf		100	95	94¾	94¾	94½	94½		95¼	94½					506
Republic I. & S.	U. S.	100	21½	20¾	21⅜	21⅛	21½	20⅞	21¾	19½	19⅝	18½	19½		35,605
" " pf		100	75¾	75⅜	76½	76	76¾	75	75⅞	73½	73⅛	72	73½		22,415
Sloss-SheffS.& I.	Ala.	100					82	81½			82				300
" " pf		100	80												300
Standard Oil	U. S.	100	770	764	770	764	775	770	776	772	776	772	776	772	
Tenn. C. I.&R.R.	Ala.	100	67¾	64¾	68	67½	68¾	67	67½	65	65¾	65½	66⅛		24,350
U. S. Steel Corp	U. S.	100	44	43¾	44¾	44	45¾	44¾	45½	44⅛	45⅛	44⅛	45⅛		164275
" " pf		100	93¾	93¾	94½	93⅞	95¼	94½	95¼	94	94⅜	93⅞	94⅜		75,595
Va.-Car. Chem.	"	100	57½	57	58⅝	58	61	60	64	62	65½	64	64		2,944
" " pf	"	100							122½	122					400

* On Pittsburg, Pa., Exchange. Total sales, 633,175 shares † Ex-dividend.

BOSTON, MASS.†

Name of Company.	Par val.	Shares listed.	Aug. 22. H.	Aug. 22. L.	Aug. 23. H.	Aug. 23. L.	Aug. 24. H.	Aug. 24. L.	Aug. 26. H.	Aug. 26. L.	Aug. 27. H.	Aug. 27. L.	Aug. 28. H.	Aug. 28. L.	Sales
Adventure Con.	$25	100,000	27.75	25.88	27.63	27.13	27.50	27.00	28.00	27.50	28.25	28.00	31.50	27.50	8,161
Allouez, c.	25	80,000	3.50		3 50		4.13	3.50	5.50	3.75	5.25	4.88	6.00	5.50	7,052
Amalgamated, c.	100	1350,000	119	115½	121½	119	122½	121	123	120½	121	118¾	119¾	118¾	46,202
Am. Z. L. & Sm.	25	60,000	13.00	12.50							12.25	12.00			180
Anaconda, c.	25	1200,000	46.50	46.00	48.13	47.00	48.00		48.50	47.88	48.00	47.50	47.25	46.88	1,147
Arcadian, c.	25	150,000			15.00	14.50	15.00	14.75	15.25	14.00	14.25	12.00	13.50	12.50	6,190
Arnold, c.	25	60,000					2.63		2.00	1.75	2.00		3.00	2.30	4,460
Atlantic, c.	25	40,000			38.00	37.50	37.00	36 00							210
Baltic	25	100,000	56.50	56.00	56.50	56.00	56.00		56.50	55.00	56.00		56.50		1,261
Bingham, c. g.	10	190,000	42.50	40 50	43.25	42.50	43.50	43.00	43 75	42.50	43.00	41.50			2,340
Bonanza Dev.	10	300,000	1.50						1.50				1.63	1 50	350
British Col.	5	200,000													
Cal. & Hecla, c.	25	100,000	740	738	740	738					730	725	730	725	43
Centennial, c.	25	90,000	30.50	29.50	30.50	29.63	30.50	30.25	30.25	30.00	29.50		29.50	28.75	3,195
Cochiti, g.	10	193,750	5.25	5.13	5.13	5.00	5.50		5.00		5.25	5.00	5.25		807
Cons. Mercur, g.	5	1300,000	2.88		2.88								3.00		201
Con. Z.& L.M.&S.	10	110,000													
Copper Range, c.	25	100,000	81.25	80.00	82.00	81.00	81.00	80.50	81.50	80.00	81.00	80.38	80.00		1,614
Daly-West, g.	20	150,000													
Dominion Coal	100	150,000	38.00		38.75	38.00	39.00	38.00	39.13	39 00	39.00		39.38		2,061
do, pref.	100	30,000													
Elm River, c.	12	100,000			5.00				5.00	4.75	4.88		5.38	5.00	1,330
Franklin, c.	25	100,000	19.13	18.88	19.00		19.00		19.25	19.00	19.00	18.50	19.00	18.50	1,445
Humboldt, c.	25	40,000													
I. Royale Con., c	25	150,000	42.00	41.50	43.00	41.75	42.50	42.00	42.25	40.63	41.00	38.75	40 00	39.25	4,020
Mass Con., c.	25	100,000	28.00	26.50	27.75	27.38	27.63	27.00	28.25	27.00	28.50	28.00	34.00	29.25	17,527
Mayflower, c.	25	100,000	2 50	2.25	2.50	2.25	2.50		2.75	2.50	2.88	2.75	2.88	2.00	8,000
Merced. g.	15	100,000													
Michigan, c.	25	100,000	17.00	16.00	16.88	16.00	16.50	16.25	16.75	16.00	16.50	15.50	17.88	16.00	8,422
Mohawk, c.	25	100,000	49.50	47.50	50.00	49.25	49.50	49.00	50.00	49.25	50.25	49.25	52.00	49.00	5,071
Mont. C. & C.	25	200,000													
National	25	100,000	2.00						2.25	1.88	2.88	2.50	4.38	2.75	10,455
N.E. Gas & Coke	100	100,000							7.38	7.00	7.75	7.50	8 00	7.50	685
New Idria	5	400,000													
Old Colony, c.	25	100,000	4.25	3.75	4.75	4.00	5.00	4.63	5.50	5.00	5.00	4.75	4.75	4.50	13,485
Old Dominion, c	25	150,000	34.00	33.25	34.50	34.00	34.50	34.00	34.50	34.00	33.75	33.00	33.50	33.00	2,845
Osceola, c.	25	93,000	100⅜	100	100⅜	100	101½	100⅜	101	100⅜	102	101	102½	101½	2,687
Parrot, s c.	10	229,850	52.00	51.63	53.38	52.00	53.50	53.25	53.50	53.00	53.25	52.00	52.50	51.75	2,182
Phoenix Con., c.	25	100,000	5.25	5.00	5.38	5.25	6.00	5.50	6.00	5.50	6.00	5.50	5.88	5.50	2,285
Quincy, c.	25	100,000	171		171		175	173	175	174	175				188
Rhode Island, c.	25	100,000	6.38	3.25	6.00	5.50	5.75	5.50	5.50	5.38	5.50	5.38	5.88		1,210
Santa Fe, g. c.	10	250,000	7.75	7.50	7.75	7.50	7 88	7.50	7.75	7.13	7 75	7.50	7.50	7.25	2,065
San Ysabel, g.	5	130,000									.50				550
Tamarack, c.	25	60,000	345		345				348		345¾		350	349	51
Tecumseh, c.	25	80,000			1.75		1.55						2.75	2.00	1,765
Tennessee, c.	25	175,000							22.00		21.00				110
Trimountain, c.	25	100,000	57.50	56.50	56.50						57.00		58.25		25
Trinity, c.	25	160,000	36.50	36.00	37.13	36.50	37.25	37.00	37.38	37.00	37.00	36.00	37.00	36.50	2,608
Union	25	80,000							3.00				8.25		10
United States, g.	25	250,000	20.00	19.50	20.00	19.88	20.00	19.88	20.00	19.75	19.88	19.75	20.00	19 50	2,156
U. S. Oil	25	100,000	13.00	12 50	13.50	13.00	14.50	13.50	15.50	15.00	15.25	14.50	16.00	14.50	6,382
Utah Con., g.	5	900,000	30.25	30.00	30.25		31.00	30.50	30.55	30 00	30.00	29.50	29.50	29.00	1,170
Victoria, g.	25	100,000	9.00	8.63	8.75	8.50	8.75	8.50	8.75	8.50	8.75	8.50	9.50	8.50	6,880
Washington, c.	25	60,000													
Winona, c.	25	100,000	3.50	3.38	4.00	3.50	4.50	4.00	4.50	4.25	4.38	4.25	4.25	4.00	3,905
Wolverine, c.	25	60,000	65.75	65.50	67.00	66.00	65.50		66.0	65.25	66.00	65.00	66.00	65.00	1,082
Wyandot, c.	25	100,000	2.00		2.00		2.00		2.00	1.75	2.00	1.75	2.00	1.88	2,920

† Official quotations Boston Stock Exchange. Total sales, 200,217 shares.

MONTREAL, CANADA. Aug. 27.

Name of Company.	Par val.	H.	L.	Sales.	Name of Company.	Par val.	H.	L.	Sales.
Big Three	$1	.02	.01⅛		Montreal-London	0.24	.02	.01⅛	5,500
California	1	.07½	.04		Nat'l Salt, com				
Can. Gold Fields	0.10	.06	.04		" pf				
Deer Trail Con	1	.03	.01⅝		North Star		.60	.50	
Evening Star	1	.06	.02		Payne	1	.20	.14½	
Golden Star	1	.05	.02		Rambler-Cariboo				
Gold Hills Dev.	1	.02½			Republic Con	1	.04	.03	1,500
Knob Hill	1	.60			Slocan-Sovereign	1	.03½	.02¼	
Monte Christo	1	.02	.01		Virtue	1	.30½	.15	11,100
Montreal G. F.	1	.02½			War Eagle	1	.16	.10	

COLORADO SPRINGS, COLO.†

Name of Company.	Par val.	Aug. 19. B.	Aug. 19. A.	Aug. 20. B.	Aug. 20. A.	Aug. 21. B.	Aug. 21. A.	Aug. 22. B.	Aug. 22. A.	Aug. 23. B.	Aug. 23. A.	Aug. 24. B.	Aug. 24. A.	Sales
Acacia	$1	.15⅝	.15¾	.15⅜	.15⅞	.15⅝	.15¾	.15	.15⅜	.15		.15¾	.15⅝	12,000
Alamo	1	.13¼	.13¾	.13¼	.15⅛	.15¼	.13⅝	.13⅝	.14	.14¾	.14	.13⅜	.14	84,000
Am. Con	1	.04⅜	.05	.04⅜	.05¼	.04¾	.05	.04¾	.05	.04¾	.05¼	.04⅝	.05¼	
Anaconda	1	.32½	.33		.35	.31	.35	.32½	.35	.33	.34	.33	.35	1,000
Anchor	1	.01¾	.02¾	.01⅝		.01¾	.02¾	.01⅞	.02¼	.01⅝		.01¾		
Antelope	1	.01⅜	.01⅝	.01⅜	.01⅝	.01⅜	.02		.02		.02	.01⅜	.01⅝	
Aola	1	.02⅝	.03⅜	.02⅝	.03¼	.02⅝	.03½	.02¾	.03	.02¾	.03			5,000
Arg'ntum J	2	.11		.12⅝	.13⅜	.13	.14			.12	.12¼	.11	.13	
Banner	1	.02½	.02¼	.02½	.02¼	.02½		.02½	.02¾	.02½	.02¾	.02	.02¼	4,600
Battle Mt.C	1			.15⅜	.16¾	.15¾	.16¾							5,000
Black Bell	1	.10	.10¾	.10	.11	.10	.10½	.10		.10	.10½	.10	.10½	5,000
Blue Bell	1	.14	.16	.14	.16	.15	.16	.15		.15		.15⅞	.16½	4,000
Buckhorn	1	.02½	.04	.03¾	.04		.04	.03⅝	.04			.03⅝		1,000
But'fly Terr	1	.38		.38	.40	.38	.41		.41	.38	.41		.40	2,900
Cadillac	1	.02	.02⅜	.02	.02½	.02	.02½	.02	.02½	.02	.02½	.02	.02½	5,800
Central C'n	1	.08¾	.1	.08¾	.09¼	.08⅝	.09⅜	.08¾	.09⅜	.08¾	.09¼	.08⅝	.08⅞	
Champion	1	.04⅜	.05	.04⅜	.04⅞	.04⅜	.04⅞	.04⅜	.04⅞	.04⅜	.04⅞	.04⅜	.05	29,000
Chicolo	1	.01⅜	.02	.01		.01⅜	.02	.01⅜				.01⅜	.02	4,000
C. K. & N.	1	.02	.02¼	.01⅞	.02½	.02	.02¼	.01⅞	.02	.01⅜	.02	.02	.02½	
C. C.Col'bia	1													17,000
C. C. G. Ext	1	.07½	.08¼	.07½	.08¾		.08		.08¼		.08¾		.08¼	
C. C. & Man	1	.07½	.08	.01½	.01⅞	.07½	.08	.07⅝	.07⅞	.07½	.08	.07⅜	.08	
Creede& CC	1	.07½	.08¼	.07½	.08¼			.07		.07		.07¾	.07¾	
C. C. Con	1	.08¼	.08⅜	.08	.08⅜	.08	.08⅜	.08	.08⅜	.08¼	.08⅜	.08¼	.08⅜	
Dante	1	.05¼	.05½	.05¼	.05½	.05¼		.05¼	.05¾	.05¼	.05½	.05⅜	.05⅝	9,000
Dr. Ja'k p't	1	.62	.63	.63	.63½	.65	.66	.66	.63	.77	.80	.73½	.73	7,000
Eclipse	1	.12⅜	.13½	.12¾	.13⅜	.12⅝	.12⅞	.12	.12⅜	.12¼	.12½	.13⅜	.13¾	88,500
Elkton Con	1	1.81	1.82	1.82	1.83	1.78½	1.81	1.77	1.80	1.75½	1.80	1.75½	1.76½	239,500
El Paso G.	1	.54⅜	.55	.51	.51½	.51⅜	.52	.52		.52⅝	.53	.53½	.55½	14,200
F.Rawlings	1	.18	.20½	.18	.20½	.18	.20½	.15	.21	.18½	.20¾	.18½	.20½	55,900
Findley	1	.09½	.10	.09⅜	.09¾	.09⅜	.10	.09¾	.09⅝	.09⅜	.09¾		.10	500
Gold Dollar	1	.12½	.20	.19⅞	.20	.19⅜	.19½	.19¼	.19⅝	.19¼	.19⅝	.20	.20½	1,000
Golde'Cycl.	1	.65	.66	.64	.66	.64⅜	.66	.64	.63¼	.64	.65¼			228,000
Golden Fl.	1	.36	.40	.36	.40		.40		.40		.40		.40	12,500
Gold Sov'n.	1	.04⅜	.04⅞	.04⅝	.05	.04¼		.04¾	.05	.04⅝	.04¾	.04¼	.04¾	100
Hayden	1	.01	.02	.01	.02	.01	.02	.01	.02	.01⅛	.01¾	.01	.02	2,000
Ing. Con	⅛	.15¼	.16	.15⅜	.16	.13⅜	.15¾	.15¼	.16	.16¾		.16½	.17	
Ironclad	1	.05¼	.05⅝	.05¼	.05⅜	.05⅛	.05⅝	.05¾		.05½	.06¾	.05¼		13,000
Isabella	1	.46¾	.46⅞	.46¾	.47¼	.43½	.50	.50⅜	.51	.55	.57	.62	.68	2,000
Jack Pot	1	.40		.40¾	.45	.41	.45	.43¼		.42¾		.42½	.47	65,800
Josephine	1	.01	.01¼	.01	.01¾									2,400
Key West	1	.01⅜		.01⅜		.01⅜	.02	.01⅜		.01⅜		.01⅜	.02	5,000
Lexington	1	.08	.06¼	.06¼		.06¼	.06⅝		.06¼	.06¼	.06⅜			
Magnet R.	1	.02¾	.02¾	.02½	.02⅝	.02½	.02¾	.02¾	.02¾	.02⅝	.02¾	.02⅜	.02¾	2,000
Margaret	1	.01¼		.01¼	.01⅜	.01⅜	.01¾	.01¼	.01¾	.01¼	.01⅜		.02⅜	8,000
Margery	1		.02		.02	.01	.02		.02		.02		.02	
Midway	1			.03⅜	.03¾	.03¾	.04	.03⅜	.03¾	.03¼	.03¾	.03¼	.03¾	18,000
M. J. T.	1	.01¾	.02	.01⅝	.02	.01½	.02	.01¾	.02	.01⅝	.02	.01¾	.02	5,000
Mobile	1	.01½	.02½		.02		.02¼	.02		.02		.02½	.02⅜	1,000
Moll.Dwyer	1	.06½	.07	.06¾	.07	.06¾	.06¾	.06¾	.06¾	.06⅜	.06¾	.06¼	.06⅞	108,000
Mollie Gib.	1	.37¼		.35¾	.40	.37	.38¾	.37½	.38⅞	.37¾	.38½	.36¾	.37	47,000
Monarch	1	.03⅝	.04	.03¾		.03⅞	.04	.03⅝	.04	.03¾	.04	.03⅝	.04	9,000
Montreal	1	.03	.03½	.03	.03¾	.03¼	.03¾			.03	.04			2,000
Moon-A'c'r	1	.31¾	.32	.30	.31	.31¼	.32½	.31	.30¾	.31	.30	.31¾	.32	34,700
Morning S.	1	.03	.03¼	.03	.03½	.03	.03½	.03	.03¼	.03	.03¼	.03	.03¾	1,000
National	1	.03½	.03⅝	.03½	.03⅝	.03½	.03¾	.03¼	.03⅝	.03⅜	.03⅝	.03⅜	.03⅝	2,000
Nellie V.	1	.04½	.05¾	.04¾	.05½	.05	.05¾	.04⅞	.05¼	.05	.05¼	.05	.05⅜	
New Haven	1	.05½		.05¼		.05⅜	.06	.05¼	.05⅞	.05¼	.05⅞	.05¼	.06	
Olive B'nch	1	.02⅜	.02⅞	.02¾	.03	.02⅝	.02¾	.03	.03¼	.03	.03¾	.03	.03¼	19,000
Oriole	1	.02⅝	.03	.02⅞	.03⅜	.03	.03¼	.02¾	.03¼	.03	.03¼	.03		1,000
Orphan	1	.17		.17½		.17		.17½	.18	.17		.17		
Pelican	1	.01¼		.01¾	.01⅝	.01¼	.01¾	.01¼	.01⅝	.01⅜		.01⅝	.02	3,000
Pharmacist	1	.08¾		.08¾	.09¾	.09¼	.09¾	.09⅜	.10	.09¾	.10	.09¾	.10	28,500
Pilgrim	1	.06	.07	.06¾	.07		.07	.06¾	.07	.06¾	.09¾		.07	1,000
Pinnacle	1	.08¾		.03¾		.08¾		.08		.05¼		.08¾		1,000
Pointer	1	.08	.08½	.08		.08		.08¾		.05	.03¾	.03¾	.08⅜	8,000
Portland	1	3.05	3.08	3.05		3.08		3.10	3.15	3.05	3.10	3.03⅜	3.10	3,200
Prince Alb.	1	.04¾	.04⅜	.04	.04½	.04	.04¾	.04	.05	.04¾	.05	.04¾	.04¾	6,000
Princess	1		.04	.03	.03¾		.03⅞	.04¼	.04	.04¾	.04	.04¾	.04¾	
Progress	1	.04¾	.05	.04⅜	.05¼		.05	.04¾	.04⅜	.04¾	.04⅜	.04¾	.04¾	13,000
Republic	1	.04⅜	.04½	.04½	.05			.04⅝	.04¾	.04⅜	.04⅝	.04⅝		2,000
Rob't Burns	1	.02⅜	.03¼	.02⅞	.03⅜	.03¼	.03½	.02⅞	.03	.03⅛	.03	.03¼	.03½	8,000
Rose Maud.	1	.05½		.05¾	.05⅞	.05⅜	.05¾	.05¾	.05⅞	.05⅝	.06	.05¾	.06	4,000
Rose Nicol.	1	.06¾	.06¾	.06¼	.06⅜	.06⅜	.06⅝	.06⅜	.06⅝	.06¼	.06	.07	.07	4,500
Silver Gold	1	.01	.01⅜		.01		.01		.01		.01			2,000
Uncle Sam	1	.02¾	.03	.02¾	.03¾	.03⅜				.02¾				
Va. M.	1	.04⅜	.05¼	.04⅞		.05¼	.04⅞	.04¾	.05	.04⅜	.05¼	.04⅝		1,000
Vindicator	1	1.16	1.18	1.15	1.20	1.15	1.18	1.15	1.17	1.15	1.16		1.16	2,960
Work	1	.13⅜		.13¾	.14¼	.13¾		.13⅝		.14¼		.15½		1,000

†Colorado Springs Mining Stock Exchange. Total sales, 1,216,600 shares.

BY TELEGRAPH.

Name of Comp'y.	Par Val	Aug. 22. B	Aug. 22. A	Aug. 23. B	Aug. 23. A	Aug. 24. B	Aug. 24. A	Aug. 26. B	Aug. 26. A	Aug. 27. B	Aug. 27. A	Aug. 28. B	Aug. 28. A
Alamo	1	.13⅜	.14¼	.13⅜	.14	.13⅜	.14	.13⅜	.14	.13⅜	.14	.13⅜	.14
Anaconda	1	.32½	.35	.33	.34	.33	.35	.34⅝	.35	.33	.35	.33	.35
Argentum	2	.13	.13½	.12	.12½	.11	.13	.12	.12¼	.11	.12½	.12	.12¾
Butterfly Terrible	1	.33	.41	.38	.41	.38	.40	.38	.41	.38	.40	.38	.40
Cripple Creek Con.	1	.08	.08¾	.08¼	.08¾	.08¾	.08½	.08	.08¾	.08¼	.08¾	.08⅜	.08⅝
Doctor Jack Pot	1	.66	.68	.77	.80	.74½	.76	.70	.71	.70½	.72	.72	.72½
Elkton Con	1	177	180	177½	180	175½	176⅝	175½	176	175½	177	177	177½
Fanny Rawlings	1	.15	.21	.15½	.20½	.15½	.20½	.19	.20½	.19⅜	.20½	.20	.20⅜
Gold Dollar	1	.19⅜	.19¼	.19⅜	.20	.20⅛	.20⅜	.19⅝	.20	.19¼	.19⅝	.20	.20⅜
Golden Fleece	1	.36	.40	.36	.40	.36	.40	.36	.40	.36	.40	.36	.40
Hart	1	.08	.10	.08	.11	.08	.11	.08	.11	.08	.11	.16½	.17¼
Ingham Con	1	.15¼	.15	.15½	.18	.16½	.17⅜	.16⅜	.18	.16⅜	.17	.53¼	.56
Isabella	1	.50¾	.51	.52	.57	.82	.84	.53	.54	.53½	.56½	.41	.45
Jack Pot	1	.41	.45	.48¼	.50	.42½	.47	.45	.47	.41	.45	.08¾	.09½
Keystone	1	.09	.09¾	.08½	.09⅜	.09⅜	.09⅝	.08¾	.10	.08¾	.10	.61	.62½
Last Dollar	1	.60¼	.65¼	.61½	.65	.62½	.63	.55	.63	.55	.63¼	.06¾	.07
Mollie Gibson	1	.38½	.37½	.35¼	.37½	.86	.37½	.35	.37⅜	.35	.36	.06½	.06⅝
Moon Anchor	1	.29¾	.31	.30⅜	.31	.30	.30¾	.29	.30	.29	.30	.03⅝	.03¾
Pharmacist	1	.09⅝	.10	.09⅝	.10	.09⅞	.10	.09¼	.09¼	.09¼	.10	.09	.10
Portland	1	310	315	305	310	305½	310	305	310	300

STOCK QUOTATIONS

LONDON.

Aug. 15.

Name of Company.	Country.	Author-ized capital.	Par value.	Last dividend. Amt.	Last dividend. Date.	Quotations. Buyers	Quotations. Sellers.
American:			£ s. d.	s.d.		£ s. d.	£ s. d.
Alaska Goldfields, g	Alaska	£300,000	1 0 0	2 3	Jan., 1901	1 11 3	1 13 9
Alaska-Treadwell, g	"	1,000,000	5 0 0	1 6	July, 1901	4 12 6	4 17 6
Anaconda, c., s	Montana	6,000,000	5 0 0	8 2	" "	9 1 3	9 3 9
Copiapo, c	Chile	200,000	2 0 0	1 6	July, 1900	2 7 6	2 12 6
De Lamar, g., s	Idaho	400,000	1 0 0	1 0	May, 1901	2 6	3 9
El Oro, g	Mexico	1,000,000	1 0 0	1 3	July 1901	1 2 6	1 5 0
Enterprise, g	British Col	300,000	1 0 0	.....	.....	5 0	10 0
Frontino & Bolivia, g	Colombia	140,000	1 0 0	3 0	July, 1901	1 7 6	1 12 6
Hall Mg. & Sm., c., s	British Col	325,000	1 0 0	.....	.....	9 6	10 6
Le Roi, g	" "	1,000,000	5 0 0	5 0	Nov., 1899	7 1 3	7 3 9
Le Roi No. 2, g	" "	120,000	5 0 0	5 0	July, 1901	2 15 0	3 0 0
Lillie, g	Colorado	250,000	1 0 0	2½	Apr., 1900	1 3	3 5
Montana, g., s	Montana	660,000	1 0 0	6	Apr., 1899	2 6	3 0
Mountain Copper	California	1,250,000	5 0 0	7 0	Apr., 1901	3 17 6	4 2 6
Stratton's Independence	Colorado	1,100,000	1 0 0	1 0	July 1901	1 1 3	1 3 9
St. John del Rey, g	Brazil	600,000	1 0 0	1 0	June, 1901	19 6	1 0 6
Utah Con., g. (Highl'nd Boy)	Utah	300,000	1 0 0	5 0	May, 1901	5 12 6	5 17 6
Velvet, g	British Col'mbia	150,000	1 0 0	.....	.....	5 0	15 0
Ymir, g	British Col'mbia	200,000	1 0 0	1 0	July, 1901	2 8 9	2 6 3
European:							
Linares, l	Spain	45,000	3 0 0	7 0	Mar., 1901	4 10 0	5 10 0
Mason & Barry, c., sul	Portugal	430,000	1 0 0	12 6	May, "	8 7 6	3 12 6
Rio Tinto, c	Spain	1,625,000	5 0 0	22 5s	May, 1901	51 12 6	51 13 9
" " pref	"	1,625,000	5 0 0	5s	" "	6 2 6	6 7 6
Tharsis, c	"	1,250,000	2 0 0	12 0	May, 1900	5 17 6	6 7 6
Australia and N. Zeal'd.							
Assoc. Gold Mines	W. Australia	500,000	1 0 0	1 6	Jan., 1900	2 2 6	2 5 0
Broken Hill Prop., s	N. S. Wales	884,000	8	1 0	May, 1901	1 13 9	1 15 0
Great Boulder Prop	W. Australia	175,000	2 0	1 0	June, 1901	19 0	19 6
Hannan's Brownhill, g	"	140,000	1 0 0	7 6	Oct., 1900	8 8 9	8 11 3
Ivanhoe Gold Corp	"	1,000,000	5 0 0	4 0	July, 1901	8 3 9	8 6 2
Kalgurlie, g	"	120,000	1 0 0	rts.	Oct., 1899	3 5 0	3 7 6
Lake View Consols, g	"	250,000	1 0 0	5 0	July, 1901	8 3 9	8 5 0
Mt. Lyell M. & R., l., c	Tasmania	900,000	3 0 0	2 6	July, 1901	4 0 0	4 2 6
Mt. Morgan, g	Queensland	1,000,000	1 0 0	2	Aug., 1901	4 0 0	4 2 6
Waihi g	New Zealand	330,000	1 0 0	2 6	Sept., 1901	5 5 3	5 10 0
Indian:							
Champion Reef, g	Colar Fields	220,000	10 0	4 0	Sept., 1901	5 17 6	6 0 0
Mysore Gold	"	250,000	10 0	4 0	July, 1901	5 16 3	5 18 9
Nundyroog, g	"	242,000	10 0	1 3	July, 1901	2 1 3	2 3 9
Ooregum, g	"	240,000	10 0	.....	.....	2 12 6	2 15 0
" pref. g	"	240,000	10 0	.....	.....	3 1 3	3 3 9
African:							
British S. Africa, chartered	So. Africa	5,000,000	1 0 0	rts.	May, 1899	3 2 6	3 5 0
Cape Copper, c	"	600,000	1 0 0	5 0	July, 1901	4 15 0	5 0 0
" " pref	"	250,000	2 0 0	5 0	" "	4 15 6	4 17 6
City & Suburban (New), g	Transvaal	1,360,000	1 0 0	8 0	Aug., 1899	5 18 9	6 1 3
Con. Deep Level, g	"	200,000	1 0 0	.....	.....	15 0	1 0 0
Crown Reef, g	"	120,000	1 0 0	18 0	Nov., 1899	14 17 6	15 2 6
De Beers Con., d	Cape Colony	3,950,000	5 0 0	£1	Mar., 1901	34 8 9	34 11 3
Ferreira, g	Transvaal	90,000	1 0 0	30 0	Aug., 1899	20 5 0	20 15 0
Geldenhuis Deep, g	"	350,000	1 0 0	8 0	" "	10 2 6	10 7 6
Geldenhuis Est., g	"	200,000	1 0 0	10 0	" "	6 8 9	6 11 3
Henry Nourse, g	"	125,000	1 0 0	10 0	Aug., 1899	8 5 0	8 10 0
Jagersfontein, d	Orange Fr. St.	1,000,000	5 0 0	6 0	Dec., 1900	15 10 0	16 10 0
Johannesburg Con. Invest.	So. Africa	2,750,000	1 0 0	2 0	Aug., 1899	2 3 9	2 5 0
Jubilee, g	Transvaal	50,000	1 0 0	5 0	Aug., 1899	5 17 6	6 2 6
Langlaagte Estate, g	"	470,000	1 0 0	3 0	Sept., 1899	3 5 0	3 7 6
May Con., g	"	200,000	1 0 0	6 0	Aug., 1899	4 5 0	4 7 6
Meyer & Charlton, g	"	100,000	1 0 0	8 0	July 1899	5 8 9	5 11 3
Namaqua, c	Cape Colony	200,000	2 0 0	8 0	June, 1900	4 3 9	4 6 3
Primrose (New), g	Transvaal	300,000	1 0 0	6 0	Aug., 1899	4 1 3	4 3 9
Rand Mines, g	So. Africa	490,000	1 0 0	15 0	" "	42 12 6	42 17 6
Robinson, g	Transvaal	2,750,000	5 0 0	8 0		9 8 9	9 11 3
Sheba, g	"	1,100,000	1 0 0	0 6	July, 1898	17 6	1 0 0
Sim. & Jack Prop., g	"	5,000,000	5 0 0	4 0	July, 1899	6 6 3	6 8 9
Wolhuter, g	"	850,000	4 0 0	2 0	Feb., 1899	4 10 0	4 12 6

SPOKANE, WASH.

Week Aug. 23

Name of Company.	Par val.	B.	A.	Sales.	Name of Company.	Par val.	B.	A.	Sales.
Black Tail	$1	.09⅝	.10½	8 000	Princess Maud	0.10	.01⅛	.01⅜	8,000
Crystal	1	.04	.06	.....	Quilp	1	.15	.28	.....
Deer Trail Con	1	.02½	.02⅝	2,000	Rambler Cariboo	0.25	.47½	.50½	10,000
Gold Ledge	1	.01	.01¾	14,000	Reservation	1	.04⅜	.05¾	3,000
Lone Pine Surp. Con	1	.04¾	.05¾	.....	Sullivan	1	.09	.12	83,000
Morning Glory	0.10	.02⅝	.03⅛	11,500	Tom Thumb	1	.12½	.13⅛	1,000
Mountain Lion	1	.25½	.80	.....	.....	.....	.....	.....	.....

MEXICO.

Aug. 23

Name of Company.	Shares.	Last div'd.	Prices. Op'g.	Prices. Cl'g.	Name of Company.	Shares.	Last div'd	Prices. Op'g.	Prices. Cl'g.
Durango:					Hidalgo:				
Capuzaya Guan.	2,400	.....	$10	$15	Soledad	960	$5.00	$200	300
Restauradora Guan.	10,000	.....	10	10	Sorpresa	960	5.00	260	260
Guanajuato					Union Hacienda	2,000	5.00	200	200
Angustias	2,400	$5.00	95	100	Mexico:				
Cinco Senores	2,000	15.00	380	380	Coronas	500	.....	45	45
Guadalupe Hacie'a.	10,000	3.00	205	205	Esperanza y An	3,000	10.00	809	800
Hidalgo:					Michoacan:				
Amistad y Concord.	9,600	3.65	37	39	Luz de Borda	4,000	.....	20	25
Arevalo	720	.....	200	300	S. Luis Potosi:				
Bartolome de Med	2,000	2.00	45	45	Concep. aviad	2,400	.....	140	145
Carmen	1,100	7.75	130	132	Zacatecas:				
Luz Ca Maravillas	1,100	.....	80	80	Asturiana	2,500	10.00	95	100
Rebellon	800	27.80	10	15	C'delar de Pinos	2,500	.....	190	180
Real del Monte	2,554	10.00	550	600	Palma de Somb	2 400	.....	30	30
San Francisco Hc	6,000	1.00	88	80	.....	.....	.....	.....	.....

PARIS.

Aug. 8.

Name of Company.	Country.	Product.	Capital Stock.	Par value.	Latest divs.	Prices. Opening.	Prices. Closing
			Francs.	Fr.	Fr.	Fr.	Fr.
Acieries de Creusot	France	Steel mfrs	27,000,000	2,000	85.00	1,787.00	1,770.00
" " Firminy	"	" "	3,000,000	500	200.00	3,000.00	3,000.00
" " Huta-Bank	Russia	Iron & steel	.....	500	.....	6,490.00	8,495.00
" " la Marine	France	Steel mfrs	20,000,000	500	65.00	1,445.00	1,480.00
Anzin	"	Coal	.....	.....	132.00	5,001.00	5,000.00
Boleo	Lower Cal	Copper	.....	500	176.00	2,250.00	2,240.00
Briansk	Russia	Coal & Iron	.....	500	.....	547.00	557.00
Champ d'Or	S. Africa	Gold	3,375,000	25	3.75	30.00	27.50
Courrieres	France	Coal	600,000	300	90.00	2,215.00	2,255.00
Dombrowa	Russia	"	.....	500	75.00	933.00	933.00
Dourges	France	Coal	12,000,000	500	700.00	24,700.00	24,700.00
Dynamite Centrale	"	Explosives	.....	500	19.00	525.00	520.00
Escombrera-Bleyberg	Spain	Lead	.....	500	50.00	851.00	827.00
Fraser River	Brit. Col'mb.	Gold	250,000	25	.....	5.00	5.00
Huanchaca	Bolivia	Silver	40,000,000	125	5.00	87.50	86.75
Laurium	Greece	Zinc & lead	16,800,000	500	25.00	335.00	330.00
Malfidano	Italy	Zinc	12,500,000	500	12.50	435.00	438.00
Metaux, Cie. Fran. de	France	Metal d'iers	25,000,000	500	22.50	425.00	420.00
Mokta-el-Hadid	Algeria	Iron	18,312,500	500	55.00	872.00	880.00
Napthe Baku	Russia	Petroleum	.....	.....	.....	500.00	392.00
Napthe Nobel	"	"	.....	.....	.....	550.00	500.00
" " parts	"	"	.....	.....	.....	9,800.00	9,800.00
Nickel	N. Caled'nia	Nickel	10,000,000	250	20.00	534.00	525.00
Penarroya	Spain	Coal etc.	.....	500	55.00	1,185.00	1,150.00
Rebecca	Colo'do, U.S.	Gold	5,000,000	25	.....	1.25	1.25
Salines de l'Est	France	Salt	.....	500	6.00	215.00	215.00
Salines du Midi	"	"	.....	500	40.00	700.00	701.00
Vielle Montagne	Belgium	Zinc	9 000,000	80	30.00	600.00	600.00

DIVIDENDS.

COAL, IRON, OIL, AND INDUSTRIAL COMPANIES.

Name and Location of Company.		Author-ized Capital Stock.	Shares. Issued.	Shares. Par Val	Dividends. Paid, 1901.	Dividends. Total to Date.	Latest. Date.	Latest. Amt.
Alabama Coal & Iron, pf	Ala	$2,500,000	25,000	$100	$87,500	$306,250	June. 1901	1.75
Altoona Coal & Coke	Pa	2,500 000	250 000	10	75,000	75,000	Jan. 1901	.30
Am. Agricul. Chem., pf.	U. S.	20,000,000	170,449	100	510,000	2,040,000	Apr. 1901	3.00
American Cement	Pa	2,100,000	200,000	10	160,000	300,000	July. 1901	.40
American Coal	Md	1,500,000	60,000	25	75,000	1,057,500	Mar. 1901	1.25
Am. Iron & Steel, com.	Pa	17,000,000	34,000	50	13,600	476,000	May. 1901	.15
Am. Iron & Steel, pf	Pa	3,000,000	60,000	50	112,500	275,000	July. 1901	.62½
Am. Sheet Steel, pf.	U. S.	26,000,000	245,000	100	857,500	857,500	Apr. 1901	1.75
Am. Steel Hoop, pf.	U. S.	14,000,000	140,000	100	490,000	1,715,000	Apr. 1901	1.75
Arizona Western Oil	Cal	500,000	500,000	1	12,000	18,000	June. 1901	.02
Aztec Oil	Cal	250,000	235,000	1	2,300	2,300	Apr. 1901	.02
Bethlehem Steel	Pa	15,000 000	300,000	50	300,000	1,200,000	June. 1901	.50
Buckhorn Oil	Cal	200,000	16,000	10	.....	3,800	Mar. 1900	.05
Burlington Oil	Cal	60,000	60,000	1	600	4,200	Jan. 1901	.01
California Oil & Gas	Cal	2,000,000	200,000	10	250,000	250,000	Jan. 1901	1.25
Cambria Steel	Pa	50,000,000	900,000	50	800,000	2,400,000	June. 1901	1.50
Central Oil	W.Va	1,500,000	60,000	25	25,000	67,500	May. 1901	.37½
Central Oil	Cal	750,000	662,800	1	59,652	100,364	July. 1901	.03
Central Point Con. Oil	Cal	200,000	190,000	1	15,200	22,800	June. 1901	.02
Colo. Fuel & Iron, com.	Colo	40,000,000	400,000	100	279,500	435,000	July. 1901	1.75
Colo. Fuel & Iron, pf.	Colo	2,000,000	20,000	100	80,000	1,240,000	Feb. 1901	4.00
Consolidation Coal	Md	10,250,000	102,500	100	205,000	5,318,000	Feb. 1901	2.00
Consolidated Coal	Ill	5,000,000	50,000	100	50,000	50,000	July 1901	1.00
Continental Oil	Cal	300,000	260,000	1	7,800	10,400	Apr. 1901	.03
Crucible Steel, pf.	U. S.	25,000,000	250,000	100	853,982	1,280,973	June. 1901	1.75
Dabney Oil	Cal	1,000,000	1,000,000	1	10,000	10,000	May. 1901	.01
Diamond Star Oil	Cal	250,000	100,000	1	.....	6,250	Nov. 1900	.02
Diamond State Steel	Del	3,000,000	150,000	10	60,000	160,000	Jan. 1901	.40
Empire Steel & Iron, pf.	U. S.	5,000,000	23,700	100	71,100	248,850	July. 1901	1.50
Federal Steel, com.	U.S.	100000,000	464,843	100	2,324,215	4,067,377	Feb. 1901	5.00
Federal Steel, pf.	U.S.	100000,000	532,609	100	2,396,742	9,054396	July. 1901	1.50
Flat Top C. L. Ass'n, com	Va	5,000,000	37,141	100	111,423	389,981	Aug. 1901	1.00
Flat Top C. L. Ass'n, pf.	Va	5,000,000	37,141	100	111,423	2,061,309	Aug. 1901	1.00
Four Oil	Cal	300,000	300,000	1	12,000	12,000	May. 1901	.01
Fullerton Oil	Cal	25,000	25,000	1	750	750	June. 1901	.03
General Chem., com	U. S.	12,500,000	71,679	100	143,358	557,624	June. 1901	1.00
General Chem., pf.	U. S.	12,500,000	82,600	100	371,700	1,137,578	July. 1901	1.50
Globe Oil	Cal	600,000	600,000	1	3,000	3,000	Apr. 1901	.00½
Gray Eagle Oil	Cal	250,000	100,000	2½	97,000	217,000	May. 1901	.47
Great Western Oil	Cal	100,000	10,000	10	.....	10,000	Oct. 1900	.10
Home Oil	Cal	100,000	100,000	1	40,500	240,500	June. 1901	.07½
Homestake Oil	Cal	100,000	10,000	10	9,000	32,000	June. 1901	.15
Jefferson&Clearf. C'l, cm	Pa	1,500,000	15,000	100	.....	30,000	Aug. 1900	2.00
Jefferson&Clearf. C'l, pf.	Pa	1,500,000	15,000	100	37,500	225,000	Feb. 1901	2.50
Kern Oil	Cal	100,000	100,000	1	25,000	375,000	Jan. 1901	.25
Lehigh Coal & Nav.	Pa	14,346,650	286,933	50	430,399	18,947,389	May. 1901	1.50
Los Angeles Oil & Trans.	Cal	500,000	500,000	1	125,000	125,000	Feb. 1901	.25
Maryland Coal, pf.	Md	1,885,005	18,850	100	47,125	687,994	July. 1901	2.50
Monongahela R. Coal, pf	Pa	10,000,000	200,000	50	709,000	1,650,000	July. 1901	1.75
Montana Coal & Coke	Mont	5,000,000	200,000	25	.....	130,000	Oct. 1900	.30
National Salt, com	U. S.	7,000,000	70,000	100	315,000	510,000	Aug. 1901	1.50
National Salt, pf	U. S.	5,000,000	50,000	100	262,500	787,500	Aug. 1901	1.75
National Steel, pf.	Pa	27,000,000	270,000	100	945,000	4,252,500	June. 1901	1.75
National Tube, com.	U. S.	40,000,000	398,604	100	1,195,812	2,391,624	May. 1901	1.50
National Tube, pf.	U. S.	40,000,000	399,963	100	2,099,805	5,599,481	July. 1901	1.75
New Central Coal	Md	$1,000,000	50,000	$20	.....	$510,000	Nov. 1900	.40
New Haven Iron & Steel	Conn	500,000	100,000	5	$22,500	117,500	Apr. 1901	.10
Oceanic Oil	Cal	100,000	100,000	1	.....	2,000	Dec. 1900	.01
Ohio & Ind. Nat. Gas	U. S.	10,000,000	90,000	1 00	180,000	540,000	June. 1901	1 00
Oil City Petroleum	Cal	500,000	500,000	1	5,000	5,000	July. 1901	.00½
Pacific Coast Borax	Cal	2,000,000	19,000	100	133,000	895,500	July. 1901	1.00
Park Crude Oil	Cal	100,000	82,146	1	.....	4,897	Sept. 1900	.01
Pennsylvania Salt Mfg.	Pa	5,000,000	100,000	50	150,000	12,700,000	Apr. 1901	3.00
Pennsylvania Steel, pf.	Pa	25,000,000	250,000	100	490,000	621,250	July. 1901	1.75
Phila. Gas, com	Pa	14,752,131	295,042	50	626,966	1,364,547	July. 1901	.75
Phila. Gas, pf	Pa	3,998,350	79,967	50	99,959	299,877	Mar. 1901	1.25
Pittsburg Coal., pf.	Pa	32,000,000	320,000	100	1,680,000	3,920,00	July. 1901	1.75
Producers' & Con. Oil	Cal	1,000,000	10,000	100	4,000	57,000	Mar. 1901	.10
Reed Crude Oil	Cal	2,000,000	2,000,000	1	50,000	50,000	Apr. 1901	.02½
Republic Iron & Steel, pf	U. S.	25,000,000	203,069	100	1,066,113	2,842,967	July. 1901	1.75
San Joaquin Oil & Dev.	Cal	100,000	100,000	1	10,000	10,000	Jan. 1901	.10
Shawmut Oil	W.Va	1,250,000	50,000	25	75,000	75,000	Aug. 1901	.50
Shelby Iron	Ala	1,000,000	10,000	100	50,000	300,000	May 1901	5.00
Sloss-Sheffield Ir.&St., pf	U. S.	20,000,000	67,000	100	348,500	695,500	July. 1901	1.75
So. Cal. Oil & Fuel	Cal	300,000	200,000	1	18,000	24,000	May. 1901	.01½
Standard Oil (of N. J.)	U. S.	100000,000	1,000,000	100	31,500,000	104625,000	June. 1901	12.00
Sunday Lake Iron	Mich	1,000,000	40,000	25	40,000	40,000	Feb. 1901	1.00
Susquehanna I. & S., pf.	Pa	1,500,000	300,000	5	67,500	582,500	July. 1901	.15
Tenn. Coal, I. &R.R. com	Tenn	23,000,000	225,536	100	.....	1,102,144	Nov. 1900	2.00
Tenn. Coal, Ir. & R.R., pf	Tenn	248,000	2,480	100	14,880	257,920	Aug. 1901	2.00
Texas & Pacific Coal	Tex	2,000,000	20,000	100	90,000	1,890,000	July. 1901	1.50
Union Oil	Cal	10,000,000	52,672	100	47,404	47,404	May. 1901	.45
United States Crude Oil	Cal	100,000	100,000	1	14,000	17,220	July. 1901	.02
United States Marble	Wash	2,000,000	2,000,000	1	23,750	23,750	July. 1901	.00¼
United States Oil	W.Va	2,500,000	100,000	25	.....	744,250	Oct. 1900	.50
U. S. Steel Corp., com	U.S.	550000,000	5,064,734	100	5,064,734	5,064,734	Sept. 1901	1.00
U. S. Steel Corp., pf.	U.S.	550000,000	5,084,863	100	8,897,510	8,897,510	Aug. 1901	1.75
Va.-Carolina Chem., com	U. S.	38,000,000	380,000	100	240,000	1,770,000	June. 1901	1.00
Va.-Carolina Chem., pf.	U. S	12,000,000	120,000	100	680,000	4,860,000	July. 1901	2.00
Warner Oil	Cal	200,000	200,000	1	10,000	10,000	June. 1901	.01
Warwick Iron & Steel	Pa	1,500,000	139,662	10	41,899	237,425	May. 1901	.30
West Lake Oil	Cal	500,000	500,000	1	.....	50,000	Sept. 1900	.01
Westmoreland Coal	Pa	5,000,000	250,000	50	.....	750,000	Oct. 1900	1.50

This table is corrected up to July 26th. Correspondents are requested to forward changes or additions.

DIVIDENDS.

GOLD, SILVER, COPPER, ZINC, LEAD AND QUICKSILVER COMPANIES.

Name and Location of Company.		Author-ized Capital Stock.	Shares. Issued.	Par Val	Dividends. Paid, 1901.	Total to Date.	Latest. Date.	Amt.
Acacia, g.	Colo.	$1,500,000	1,500,000	$1	.....	$45,000	Dec. 1900	.01
Adams, s.l.c.	Colo.	1,500,000	150,000	10	$7,500	708,500	Apr. 1901	.05
Aetna Con., q.	Cal.	500,000	100,000	5	.....	225,000	Apr. 1900	.15
Alaska Goldfields	Alask	1,500,000	250,000	5	135,000	260,000	Jan. 1901	.54
Alaska-Mexican, g.	Alask	1,000,000	180,000	5	54,000	535,031	July. 1901	.10
Alaska-Treadwell, g.	Alask	5,000,000	200,000	25	225,000	4,745,000	July. 1901	.37½
Alice, g. s.	Mont.	10,000,000	400,000	25	.....	1,875,000	Apr. 1898	.05
Alliance, g.	Colo.	500,000	500,000	1	.....	47,500	Nov. 1899	.07
Amalgamated, c.	Mont.	155000,000	1,500,586	100	6,041,172	13,541,172	July. 1901	2.00
Amanda, g.	Colo.	1,000,000	1,000,000	1	.....	10,000	June. 1900	.01
Amazon, g.	Colo.	600,000	600,000	1	.....	121,882	May. 1900	.10
American, g.	Colo.	3,000,000	300,000	10	.....	420,000	Dec. 1899	.04
Amer. Sm. & Ref., pref.	U. S.	50,000,000	500,000	100	1,834,000	4,516,553	July. 1901	1.75
Am. Zinc, Lead & Sm.	Mo.	2,500,000	60,000	25	.....	180,000	Jan. 1900	1.00
Anaconda, c.	Mont.	30,000,000	1,200,000	25	2,400,000	19,350,000	Apr. 1901	2.00
Anchoria-Leland, g.	Colo.	600,000	600,000	1	.....	198,000	Apr. 1899	.03
Anglo-Mexican, g.	Mex.	2,001,625	400,230	5	.....	1,825,048	Dec. 1899	.24
Appie Ellen, g.	Colo.	600,000	600,000	1	.....	25,000	Nov. 1898	.04
Argonaut, g.	Cal.	2,000,000	200,000	10	.....	490,000	May. 1900	.05
Arizona, c.	Ariz.	3,775,000	.....	....	761,428	2,226 276	July. 1901	6.72
Associated, g.	Colo.	1,250,000	1,250,000	1	.....	84,000	Feb. 1899	.01
Athabasca, g.	B.C.	550,000	110,000	5	.....	25,000	Oct. 1900	.23
Atlantic, c.	Mich.	1,000,000	40,000	25	80,000	880,000	Feb. 1901	2.00
Bald Butte, g. s.	Mont.	250,000	250,000	1	105,000	1,027,148	July. 1901	.06
Bankok-Cora Belle, g.	Colo.	600,000	600,000	1	.....	107,510	July. 1896	.01
Big Seven, g.	Cal.	100 000	100,000	1	.....	6,000	Apr. 1898	.03
Big Six, g. s. l.	Colo.	500,000	500,000	1	.....	15.000	May. 1898	.00½
Boston, q.	Cal.	1,000,000	100,000	10	.....	20.000	Jan. 1900	.10
Boston-Aurora, pref.	Mo.	800,000	32,000	25	.....	66,160	May. 1900	.50
Boston & California, g.	Cal.	600,000	600,000	1	.....	72,000	June. 1899	.06
Boston & Colo. Smelting	Colo.	750,000	15,000	50	22,500	337,600	Apr. 1901	.75
Boston Duenweg, z.	Mo.	1,000,000	40,000	10	.....	56,000	June. 1900	.10
Boston Get There, z	Mo.	250,000	22,500	10	.....	20,250	Apr. 1900	.10
Boston Gold-Copper Sm.	Colo.	1,000,000	1,000,000	1	50,000	100,000	May. 1901	.02½
Boston & Mont. Con., c.s.g	Mont.	3,750.000	150,000	25	4,500,000	25,475,000	Aug. 1901	10.00
Bosun, s. l.	B. C.	250,000	50,000	5	12,500	12,500	Apr. 1901	.25
Breece, i. s.	Colo.	5,000,000	200,000	25	20,000	120,000	June. 1901	.05
Buffalo Hump, g.	Idaho	1,000,000	100,000	10	25,000	300,000	Jan. 1901	.10
Bullion-Beck & Champ.	Utah.	1,000,000	100,000	10	.....	2,498.400	June. 1900	.10
Bunker Hill & Sullivan.	Idaho	3,000,000	300,000	10	126,000	1,179,000	June. 1901	.07
Butte & Boston Con., c.	Mont.	2,000,000	200,000	10	.....	1,000,000	Dec. 1900	5.00
Butterfly-Terrible, g.	Colo.	1,500,000	1,250,000	1	25,000	25,000	July. 1901	.00¾
Calumet & Hecla, c.	Mich.	2,500,000	100,000	25	3,000,000	75,850,000	July. 1901	15.00
Cariboo-McKinney, g.	B. Col	1,250,000	1,250,000	1	.....	478,087	Oct. 1900	.01½
Centen'l-Eureka, g.s.l.c.	Utah.	5,000,000	100,000	25	100,000	2,517,700	Apr. 1901	.50
Center Creek, l. z.	Mo.	1,000,000	100,000	10	20,000	60.000	July. 1901	.10
Center Star, g.	B. C.	3,500,000	3,500,000	1	105,000	175,000	Apr. 1901	.01
Central Eureka, g. s.	Cal.	4,000,000	400,000	10	10,000	30,000	June. 1901	.02½
Central Lead, l.	Mo.	1,000,000	10,000	100	35,000	242,000	July. 1901	.50
Champion, g. s.	Cal.	340,000	34,000	10	.....	402,300	Dec. 1899	.25
Cloverdale, z.	Mo.	1,000,000	100,000	10	.....	80,000	July. 1900	.20
C. O. D., g.	Colo.	500,000	500,000	1	.....	25,000	Mar. 1896	.01
Columbia, l.	Mo.	600,000	60,000	10	.....	12.125	June. 1900	.05
Columbian Hyd., c.	C'l'm	375,000	75,000	5	.....	463.500	Nov. 1899	.12
Commodore, g.	Colo.	1,200,000	1,200,000	1	.....	432,000	Jan. 1899	.04
Con. Cal. & Va., s.g.	Nev.	540,000	216,000	2½	64,800	3,963,600	July. 1901	.10
Con. Mercer Gold Mines.	Utah.	5,000,000	1,000,000	5	250,000	1,728,500	Aug. 1901	.12½
Consolidated (New), g.	Colo.	2,500,000	1,900,000	1	57,000	57,000	July. 1901	.01
Copiapo, c.	Chile.	1,125,000	112,500	10	.....	2,718,000	Dec. 1900	.80
Creede & Cripple C'k., g.	Colo.	800,000	80,000	1	16,000	16,000	May. 1901	.02
Cripple Creek Con., g.	Colo.	2,000,000	2,000,000	1	.....	160.000	Mar. 1900	.08
Crœsus, g.	Cal.	1,000,000	200,000	5	66,000	217,300	July. 1901	.05
Crowned King, g. s.	Ariz.	6,000,000	600,000	10	.....	242,760	May. 1901	.02
Dalton & Lark, g. s. l.	Utah.	2,500,000	2,500,000	1	256,725	344,225	July. 1896	.10½
Daly-West, g.	Utah.	3,000,000	150,000	20	315,000	922,500	July. 1901	.30
Deadwood-Terra, g.	S. D.	5,000,000	200,000	25	.....	1,350,000	May. 1898	.15
Deer Trail Con., g.	Wash	3,000,000	3,000,000	1	.....	55,000	Dec. 1899	.00½
De Lamar, g. s.	Idaho	2,000,000	400,000	5	96,000	2,490,000	May. 1901	.24
Della S., g. s.	Colo.	1,000,000	1,000,000	1	.....	60,000	Jan. 1897	.01
Dewey Con., g.	Utah.	10,000	10,000	1	3,250	5,850	June. 1901	.10
Doctor-Jack Pot Con., g	Colo.	3,000,000	2,900,000	1	203,000	203,000	July. 1901	.01
Doe Run, l.	Mo.	1,500,000	10,000	100	45,000	462,072	July. 1901	1.50
Ducktown, c. i. sul. (ord)	Tenn.	374,000	7,480	50	.....	133,144	May. 1900	5.00
Ducktown (founder)	Tenn.	1,000	200	5	.....	66,160	May. 1900	125.00
Eldorado, g.	Cal.	1,000,000	100,000	10	.....	10,000	July. 1899	.10
Elkton Con., g.	Colo.	3,000,000	2,500,000	1	150,000	1,129,461	June. 1901	.03
El Oro, g. s.	Mex.	5,000,000	1,000,000	5	240,000	480 000	Feb. 1901	.24
Empire State-Idaho, l.s.	Idaho	6,000,000	505.542	10	332,879	1,005,567	July. 1901	.10
Enterprise, g.	Colo.	500,000	500,000	1	.....	900,000	Sept. 1898	.05
Fanny Rawlings, g.	Colo.	1,000,000	1,000,000	1	.....	20,000	Aug. 1899	.01
Fern, g.	B. C.	200,000	200,000	1	.....	10.000	Jan. 1898	.05
Ferris-Haggarty, c.	Wyo	1,000,000	1,000,000	1	.....	5,000	Mar. 1899	.00½
Florence, s.	Mont.	2,500,000	400,000	5	.....	223,780	Mar. 1900	.05
Frisco Con., l. s.	Idaho	2,500,000	500,000	5	.....	920,000	Nov. 1899	.25
Frontino & Bolivia, c.	C'l'm	643,310	128,662	5	.....	1,109,066	Oct. 1899	.36
Galena, s. l. g.	Utah.	1,000,000	100,000	10	.....	71,000	Sept. 1897	.05
Gemini	Utah.	500,000	5,000	100	.....	700,000	Aug. 1900	10.00
Gold Belt, g.	Colo.	1,250,000	1,250,000	1	.....	112,500	Aug. 1900	.09
Gold Coin of Victor, g.	Colo.	1,000,000	1,000,000	1	210,000	810,000	July. 1901	.03
Gold Deposit, g.	Colo.	500,000	500,000	1	.....	10,000	Mar. 1900	.02
Gold & Globe, g.	Colo.	750,000	750,000	1	.....	51,625	July. 1897	.00½
Gold King, g.	Colo.	1,000,000	936.850	1	56,212	412,214	July. 1901	.03
Golden Cycle, g.	Colo.	1,000,000	200,000	5	30,000	408,500	Mar. 1901	.05
Golden Eagle, g.	Colo.	500,000	500,000	1	5,000	30,000	Apr. 1901	.01
Golden Fleece, g. s.	Colo.	600,000	600,000	1	.....	569,480	Feb. 1897	.01
Golden Reward, g.	S. D.	1,000,000	100,000	10	.....	155,000	Feb. 1898	.15
Grand Central, g. s.	Mex.	1,500,000	250,000	5	.....	840,000	Jan. 1900	.48
Grand Central, g.	Utah.	250,000	250,000	1	.....	691,250	Nov. 1900	.10
Grass Valley Expl	Cal.	100,000	30,000	2	.....	30,000	Jan. 1900	.25
Greater Gold Belt, g.	Colo.	5,000,000	3,800,000	1	.....	76,000	June. 1900	.02
Gwin, g.	Cal.	1,000,000	100,000	10	90,000	241,500	Julp. 1901	.10
Hall, c. s.	B. C.	1,625,000	267,609	5	.....	220,000	May. 1899	.24
Hecla, l. s.	Idaho	250,000	1,000,000	¼	.....	100,000	Dec. 1900	.02
Hecla Con., s. l.	Mont.	1,500,000	30,000	50	15,000	2,235,000	Feb. 1901	.50
Helena, g.	Ore.	1,000,000	1,000,000	1	35,000	85,000	July. 1901	.00½
Hidden Treasure, g.	Cal.	360,000	36,000	10	.....	457,452	Sept. 1900	.10
Holy Terror, g.	S. D.	500,000	500,000	1	.....	172,000	Jan. 1900	.01
Homestake, g.	S. D.	21,000,000	210,000	100	735,000	10,138,750	July. 1901	.50
Horn-Silver, g. s. c.z.l.	Utah.	10,000,000	400,000	25	.....	5,270.000	June. 1900	.05
Idaho, s. l.	B. C.	500,000	500,000	1	.....	292,000	Jan. 1899	.05¾
Independence Con., g.	Colo.	2,500,000	2,500,000	1	181,375	281,375	Apr. 1901	.04
Ingham Con., g.	Colo.	750,000	1,359,600	½	27,192	27,192	July. 1901	.00¼
Iowa, g. s. l.	Colo.	1,666,667	1,666,667	1	50,000	186,834	July. 1901	.01
Iron Silver	Colo.	10,000,000	500,000	20	.....	2,550,000	Dec. 1900	.10
Isabella, g.	Colo.	2,250,000	2,250,000	1	22,500	742,500	Mar. 1901	.01
Jamison, g.	Cal.	3,900,000	390,000	10	.....	50,700	Apr. 1899	.10
Kennedy, g.	Cal.	10,000,000	100,000	100	10,000	1,801,000	June. 1901	.05
Klondike Bonanza, g.	Klon.	750,000	52,750	5	.....	50,000	Aug. 1899	.24
La Fortuna, g.	Ariz.	250,000	250,000	1	87,500	1,003,000	July. 1901	.05
Lake City, g	Colo.	50,000	50,000	1	.....	3,875	May. 1900	.01
Last Chance, s. l.	B. C.	500,000	500,000	1	.....	45,000	Apr. 1899	.05
Last Dollar, g.	Colo.	$1,500,000	1,500,000	$1	$60,000	$150,000	May. 1901	.02
Le Roi, g.	B.C.	5,000,000	200,000	5	.....	1,305,000	Nov. 1899	1.20
Le Roi, No. 2, g.	B.C.	3,000,000	120,000	5	144,000	144,000	June. 1901	1.20
Lightner, g.	Cal.	125,000	102,255	1	17,894	28,117	May. 1901	.10
Lillie, g.	Colo.	1,250,000	250,000	5	.....	349,183	Apr. 1900	.05
Mammoth, g. s. c.	Utah	10,000,000	400,000	25	120,000	1,910,000	July. 1901	.05
Marian Con., g. s. z, l. i.	Colo.	5,000,000	500,000	10	.....	202,000	Sept. 1899	.01
Mary McKinney, g.	Colo.	1,000,000	1,000,000	1	90,000	270,000	July. 1901	.03
May Day	Utah.	100,000	400,000	¼	18,000	18.000	July. 1901	.02½
Midget, g.	Colo.	1,000,000	1,000,000	1	.....	120,000	Dec. 1900	.15
Modoc, g. s.	Colo.	500,000	500,000	1	35,000	240,000	July. 1901	.01
Mollie Gibson, s. l.	Colo.	5,000,000	1,000,000	5	.....	4,080,000	Jan. 1895	.05
Montana, Ltd., g. s.	Mont.	3,300,000	657,128	5	.....	453,700	Apr. 1899	.12
Montana Ore Purchas'g.	Mont.	2,500,000	80,000	25	560,000	2,160,000	Aug. 1901	1.00
Montreal, g.	Colo.	1,000,000	750,000	1	.....	7,500	Nov. 1898	.01
Monument, g.	Colo.	300,000	300,000	1	3,000	21,124	Feb. 1901	.01
Moon-Anchor, g.	Colo.	1,750,000	350,000	5	.....	261,000	Nov. 1898	.07½
Moose, g.	Colo.	600,000	600,000	1	.....	186,000	Feb. 1896	.01
Morning Star Drift, g.	Cal.	240,000	2,400	100	.....	854,490	Sept. 1900	3.00
Morse, g.	Colo.	1,250,000	1,250,000	1	.....	215,650	May. 1899	.12
Moulton, g.	Mont.	2,000,000	400,000	5	.....	500,000	Oct. 1893	.05
Mountain, c.	Cal.	6,250,000	250,000	25	420,000	2,793,750	Apr. 1901	1.68
Mt. Diablo, s.	Nev.	5,000,000	50,000	100	.....	260,271	Jan. 1900	.10
Mt. Rosa, g.	Colo.	1,000,000	1,000,000	1	.....	75,000	Dec. 1899	.04
Mt. Shasta, g.	Cal.	100,000	20,000	5	.....	6,000	May. 1899	.30
Napa Con., q.	Cal.	700,000	100,000	7	30,000	1,130,000	July. 1901	.10
National Lead, com.	U. S.	15,000,000	149.054	100	.....	1,341,486	Mar. 1900	1.00
National Lead, pf.	U. S.	15,000,000	149,040	100	521,640	11,361,920	June. 1901	1.75
New Elkhorn, g.	Colo.	437,500	87,500	5	.....	1,325,000	June. 1898	.48
New Idria, q.	Cal.	500,000	100,000	5	60,000	310,000	July. 1901	.20
New Jersey Zinc.	U. S.	10,000,000	100,000	100	400,000	3,200,000	Feb. 1901	4.00
New Leadville Home, g.	Colo.	2,000,000	2,000,000	1	75,000	175,000	July. 1901	.00⅝
N.Y.& Hon Rosario, s.g.	C. A.	1,500,000	150,000	10	105,000	1,535,000	July. 1901	.10
New Zealand Con., g.	Colo.	1,000,000	765,000	1	7,650	7,650	June. 1901	.01
North Star, s. l.	B. C.	1,500,000	1,300,000	1	78,000	198,000	June. 1901	.03
North Star, g.	Cal.	5,000,000	250,000	10	.....	584,850	Nov. 1899	.20
Nugget, g.	Colo.	1,000,000	991,000	1	29,730	84,730	July. 1901	.01
Old Colony Zinc & Sm.	Mo.	1,100,000	69,909	10	34,954	103,230	May. 1901	.25
Omega, g.	Colo.	1,500,000	1,200,000	1	.....	18,188	June. 1900	.01½
Ontario, s. l.	Utah.	15,000,000	150,000	100	15,000	14.662.500	Aug. 1901	.10
Original Empire, g.	Cal.	500,000	50,000	100	.....	530,000	Oct. 1899	1.00
Orphan Belle, g.	Colo.	1,000,000	1,000,000	1	.....	197,899	Dec. 1899	.09
Osceola, c.	Mich.	2,500,000	95,900	25	287,700	3,958,100	June. 1901	3.00
Parrot, c.	Mont.	2,300,000	229.850	10	1,034.325	5,428,150	July. 1901	1.50
Payne Con., s. l.	B. C.	3,000,000	2,600,000	1	78,000	1,438,000	Jan. 1901	.03
Pennsylvania Con., g.	Cal.	5,150,000	51,500	100	.....	161,325	May. 1900	.10
Pioneer, g.	Cal.	1,000,000	200,000	5	.....	62,500	Mar. 1899	.12½
Plumas Eureka, g.	Cal.	1,406,250	140,625	10	33,750	2,831,294	Apr. 1901	.24
Pointer, g.	Colo.	1,250,000	1,250,000	1	25,000	25,000	June. 1901	.01
Portland, g.	Colo.	3,000,000	3,000,000	1	540,000	3,847,080	July. 1901	.06
Princess, g.	Colo.	1,000,000	1,000,000	1	.....	55,000	Feb. 1897	.00½
Queen Bess, s. l.	B. C.	500,000	100,000	5	.....	25,000	July. 1899	.12½
Quicksilver, pref.	Cal.	4,300,000	43,000	100	21,500	1,888,411	May. 1901	.50
Quincy, c.	Mich.	2,500,000	100,000	25	900,000	12.870,000	Aug. 1901	6.00
Rambler—Cariboo, s. l.	B.Col	1,250,000	1,250,000	1	.....	105,000	Apr. 1900	.01
Reco, s. l.	B. C.	1,000,000	1,000,000	1	.....	287,500	Jan. 1898	.10
Republic Con., g.	Wash	3,500,000	3,500,000	1	.....	382,500	Mar. 1900	.01
Reward, g.	Cal.	1,000,000	100,000	10	.....	20,000	Aug. 1899	.20
Richmond, g. s. l.	Nev.	1,350,000	54,000	25	.....	4,453,797	Dec. 1900	.24
Rocco-Homestake, g.s.	Nev.	300,000	300,000	1	31,500	30,500	July. 1901	.01½
Sacramento, g.	Utah.	5,000,000	1,000,000	5	10,000	128,000	July. 1901	.00½
St. John del Rey, g.	Br'zil	3,000,000	425,482	5	.....	13,633,991	Dec. 1900	.24
St. Joseph, l.	Mo.	3,000,000	250,000	10	75,000	3,384,500	June. 1901	.15
Santa Rita, g.	Colo.	1,000,000	1,000,000	1	.....	4,000	July. 1900	.02
Silver King, g. s. l.	Utah.	3,000,000	150,000	20	675,000	4,125,000	July. 1901	.66⅔
Silver Shield, g.	Utah.	300,000	300,000	1	3,000	4,500	Feb. 1901	.00½
Small Hopes, s.	Colo.	5,000 000	250,000	20	.....	3,325,000	Feb. 1899	.10
Smuggler, s. l. z.	Colo.	1,000,000	1,600,000	1	210,000	2,005,000	July. 1901	.03
Southern Boy, g.	Colo.	1,250,000	875,000	1	.....	17,500	May. 1900	.02
South Swansea, s. l.	Utah.	300,000	275,000	1	7,500	172,500	Mar. 1901	.05
South Winnie, g. s.	Colo.	250,000	250,000	1	7,500	7,500	June. 1901	.03
Squaw Mountain, g.	Colo.	2,000,000	2,000,000	1	.....	10.000	Nov. 1899	.00½
Standard Con., g. s.	Cal.	2,000,000	178,394	10	35,678	3,999,780	May. 1901	.10
Standard, s. l.	Idaho	500,000	500,000	1	150,000	2,340,000	July. 1901	.05
Stratton's Independ'ce.	Colo.	5,500,000	1,000,007	5	547,503	3,312,855	July. 1901	.24
St Eugene Con., s.l.	B. C.	3,500,000	3,500,000	1	210,000	210,000	Apr. 1901	.03
Swansea, s. l.	Utah.	500,000	100,000	5	35,000	341,500	July. 1901	.05
Tamarack, c.	Mich.	1,500,000	60,000	25	600,000	7,890,000	June. 1901	10.00
Tomboy, g.	Colo.	1,500,000	300,000	5	72,000	1,028,000	June. 1901	.24
Town Topics, g. c.	Colo.	1,000,000	1,000,000	1	10,000	10,000	July. 1901	.00½
Union, g.	Colo.	1,250,000	1,250,000	1	.....	395,244	Sept. 1900	.25
Union, z. l.	Kas.	500,000	500,000	1	35,000	70,000	July. 1901	.01
United, z. l., pref.	Mo.	6,000,000	14,998	25	22,497	52,760	July. 1901	.50
United Verde, c.	Ariz.	3,000,000	300,000	10	.....	7,861,180	Dec. 1900	1.50
Utah, g.	Utah.	1,000,000	100,000	10	6,000	187,000	May. 1901	.02
Utah Con., c.	Utah.	1,500,000	300,000	5	375,000	375,000	Apr. 1901	1.22
Vindicator Con., g.	Colo.	1,500,000	1,100,000	1	115,000	609,000	July. 1901	.05
War Eagle Con., g. s. c.	B.C.	2,000,000	1,750,000	1	.....	545,250	Feb. 1900	.01½
Wolverine, c.	Mich.	1,500,000	60,000	25	.....	510,000	Oct. 1900	2.00
Yellow Aster, g.	Cal.	1,000,000	100,000	10	.....	459,410	Dec. 1900	.10
Ymir, g.	B. C.	1,000,000	200,000	5	96,000	144,500	May. 1901	.24
Zoe, g.	Colo.	1,500,000	1,500,000	1	.....	7,500	Dec. 1900	.00½

This table is corrected up to July 26th. Correspondents are requested to forward changes or additions.

CHEMICALS, MINERALS, RARE ELEMENTS, ETC.—CURRENT WHOLESALE PRICES.

Abrasives—	Cust. Meas.	Price.
Carborundum, f.o.b. Niagara Falls, Powd., F. FF. FFF	lb.	$0.08
Grains	"	.10
Corundum, N. C.	"	.07@.10
Chester, Mass.	"	.04½@.05
Crushed Steel, f. o. b. Pittsburg	"	.05½
Emery, Turkish flour, in kegs	"	.03½
Grains, in kegs	"	.05@.05½
Naxos flour, in kegs	"	.03½
Grains, in kegs	"	.05@.05½
Chester flour, in kegs	"	.03½
Grains, in kegs	"	.05@.05½
Peekskill, f.o.b. Easton, Pa., flour, in kegs	"	.01½
Grains, in kegs	"	.02½
Crude, ex-ship, N. Y.:		
Abbott (Turkey)	lg. ton	26.50@30.00
Afrodissia (Turkey)	"	23.00@24.00
Kuluk (Turkey)	"	22.00@24.00
Naxos (Greek) h. gr.	"	26.00
Pumice Stone, Am. powd.	lb.	.01⅞@.02
Italian, powdered	"	.01½
Lump, per quality	"	.04@.40
Rottenstone, ground	"	.02¼@.03
Lump, per quality	"	.05@.14
Rouge, per quality	"	.10@.30
Steel Emery, f.o.b. Pittsburg	"	.07
Acids—		
Benzoic, English	oz.	.11
German	lb.	.36
Boracic, crystals	"	.10½@.11
Powdered	"	.11@.11½
Carbolic, crude, 60%	gal.	.27
Cryst, 37% drums	lb.	.22
Liquid, 95%	gal.	.45
Carbonic, liquid gas	lb.	.12½
Chromic, crude	"	.20
Chem. pure	"	.50
Hydrofluoric, 30%	"	.03
48%	"	.05
Best	"	.25
Sulphurous, liquid anhy.	"	.08
Tartaric, cryst	"	.28¼
Powder	"	.29
Alcohol—Grain	gal.	2.49
Refined wood, 95@97%	"	.60@.65
Purified	"	1.20@1.50
Alum—		
Lump	100 lbs.	1.75
Ground	"	1.80
Powdered	"	3.00
Chrome, com'l	"	2.75@3.00
Aluminum—Nitrate	lb.	1.50
Oxide, com'l, common	"	.06½
Best	"	.20
Pure	"	.80
Hydrated	100 lbs.	2.60
Sulphate, pure	"	1.50@2.00
Com'l	"	1.15@1.25
Ammonia—		
Aqua, 16°	lb.	.03
18°	"	.03¼
20°	"	.03¾
26°	"	.05⅛
Ammonium—		
Bromide, pure	"	.52@.53
Carbonate lump	"	.08¼@.08½
Powdered	"	.09@.09¼
Muriate, gran	"	.06@.06½
Lump	"	.09
Nitrate, white, pure (99%)	"	.12
Phosphate, com'l	"	.10
Chem. pure	"	60
Antimony—		
Glass	"	.30@.40
Needle, lump	"	.05½@.06
Powdered, ordinary	"	.05¾
Best	"	.08½
Oxide, com'l white, 95%	"	.09½
Com'l white, 99%	"	.12
Com'l gray	"	.07
Sulphuret, com'l	"	16
Arsenic—White	"	.03½@.03⅝
Red	"	.07@.07¼
Asphaltum—		
Ventura, Cal.	sh ton	32.00
Cuban	lb.	.01½@.03½
Egyptian, crude	"	.05½@.06
Trinidad, refined	sh. ton	35.00
San Valentino (Italian)	lg. ton	16.00
Seyssel (French) mastic	sh.ton	21.00
Gilsonite, Utah, ordinary	lb.	.03
Select	"	.03¾
Barium—Carbonate,		
Lump, 80@90%	sh. ton	25.00@27.50
92@98%	"	26.00@29.00
Powdered, 80@90%	lb.	.01¾@.02
Chloride, com'l	100 lbs.	1.67½@1.76
Chem. pure cryst	lb.	.05
Nitrate, powdered	"	.06
Oxide, com'l, hyd. cryst	"	.18
Hydrated, pure cryst.	"	.25
Pure, powd.	"	.27
Sulphate	"	.02
Barytes—		
Am. Cr., No. 1	sh ton	9.00
Crude, No. 2	"	8.00
Crude, No. 3	"	7.75
German, gray	"	14.50
Snow white	"	17.00
Bauxite—Ga. or Ala. mines:		
First grade	lg. ton.	5.50
Second grade	"	4.75
Bismuth—Subnitrate	lb	1.70
Subcarbonate	"	1.90
Bitumen, "B"	"	.03½
"A"	"	.05
"A" and "B"	"	.04½
Bone Ash	"	.02¼@.02½
Borax	"	.07¼@.07½
Calcined	"	.25
Bromine	"	.40

	Cust. Meas.	Price.
Cadmium—Metallic	lb.	$1.40
Sulphate	100 lbs.	2.00@2.50
Calcium—Acetate, gray	"	1.55
" brown	"	1.05
Carbide, ton lots, f. o. b. Niagara Falls, N. Y. or Jersey City, N. J.	sh. ton	75.00
Carbonate, ppt.	lb.	.05
Chloride, com'l	100 lbs.	.75
Best	"	.80@1.00
Sulphite	lb.	.05
Cement—		
Portland, Am., 400 lbs.	bbl.	1.50@2.00
Foreign	"	1.65@2.25
"Rosendale," 300 lbs.	"	.95
Sand cement, 400 lbs.	"	1.55@1.95
Slag cement, imported.	"	1.65
Ceresine—		
Orange and Yellow	lb.	.12¼
White	"	.14
Chalk—Lump, bulk	sh. ton	2.50
Ppt. per quality	lb.	.03¾@.06
Chlorine—Liquid	"	.30
Water	"	.15
Chrome Ore—		
(50% ch.) ex ship, N. Y.	lg. ton	24.00
Sand, f.o.b. Baltimore	"	33.00
Bricks, f.o.b., Pittsburg. M		175.00
Clay, China—Am. com., ex-dock, N. Y.	lg ton	8.00
Am. best, ex-dock, N. Y.	"	9.00
English, common	"	12 00
Best grade	"	17 00
Fire Clay, ordinary	sh. ton	4.25
Best	"	6.00
Slip Clay	"	5.00
Coal Tar Pitch	gal.	.08
Cobalt—Carbonate	lb.	1.75
Nitrate	"	1.50
Oxide—Black	"	2.26@2.30
Gray	"	2.28@2.40
Smalt, blue ordinary	"	.10
Best	"	.20
Copperas	100 lbs.	.30@.35
Copper—Carbonate	lb.	.18
Chloride	"	.25
Nitrate, crystals	"	.35
Oxide, com'l	"	.19
Cream of Tartar	"	.19¼@.19¾
Cryolite	"	.06½
Explosives—		
Blasting powder, A. 25 lb. keg		2.65
Blasting powder, B	"	1.40
"Rackarock," A	lb.	.25
"Rackarock," B	"	.18
Judson R.R. powder	"	.10
Dynamite (20% nitro-glycerine)	"	.13
(30% nitro-glycerine)	"	.14
(40% nitro-glycerine)	"	.15
(50% nitro-glycerine)	"	.16½
(60% nitro-glycerine)	"	.18
(75% nitro-glycerine)	"	.21
Glycerine for nitro (32 2-10° Be.)	"	.13@.13½
Feldspar—Ground	sh. ton	8.00@9.00
Fluorspar—		
Am. lump, 1st grade	"	14.40
2d grade	"	13.90
Gravel & crushed, 1st g	"	13.40
2d grade	"	12.40
Ground, 1st grade	"	17.90
2d grade	"	16.50
Foreign, lump	"	8.00@12.00
Ground	"	11.50@14.00
Fuller's Earth—Lump	100 lbs.	.75
Powdered	"	.85
Refined lump	"	1.25
Graphite—Am. f. o. b. Providence, R.I. lump	sh. ton	8.00
Pulverized	"	30.00
German, com. pulv.	lb.	.01¼@.01¼
Best pulverized	"	.01¼@.02
Ceylon, common pulv.	"	.02¾@.03¼
Best Pulverized	"	.04@.08
Italian, pulv	"	.01¼
Gypsum—Ground	sh. ton	8.00@8.50
Fertilizer	"	7.00
Rock	lg. ton	4.00
English and French	"	14.00@16.00
Infusorial Earth—Ground, American, best	"	20.00
French	"	37.50
German	"	40.00
Iodine—Crude	100 lbs.	2.45
Iron—Muriate	lb.	.05
Nitrate, com'l	"	.01¼
True	"	.04
Oxide, pure copperas col	"	.05@.10
Purple-brown	"	.02
Venetian red	"	.01@.01½
Scale	"	.01@.03
Kaolin—(See Clay, China).		
Kryolith—(See Cryolite.)		
Lead—Acetate, white	lb.	.07
Com'l, broken	"	.06½
Brown	"	.05½
Nitrate, com'l	"	.06½
" gran	"	.8½
Lime—Com., ab. 250 lbs	bbl.	.70
Finishing	"	.80
Magnesite—Greece.		
Crude (95%)	lg. ton	6.50@7.00
Calcined	sh.ton	14.00@15.00
Bricks	M.	170.00
Am. Bricks, f o.b. Pittsburg	"	175.00
Magnesium—		
Carbonate, light, fine pd	lb.	.04½
Blocks	"	.06@.07
Chloride, com'l	"	.01¾
Fused	"	.20
Nitrate	"	.60
Sulphate	100 lbs.	.75@.95
Manganese—Powdered. 75@75% binoxide	lb.	.01¼@.01½

Manganese—	Cust. Meas.	Price
Crude, pow'd		
75@85% binoxide	lb.	$0.01½@.02½
85@90% binoxide	"	.02½@.03¼
90@95% binoxide	"	.02¾@.05½
Carbonate	"	.16@.20
Chloride	"	.04
Ore, 50%, Foreign	unit	.23@.24
Domestic	"	.30
Marble—Flour	sh. ton	6.00@7.00
Mercury—Bichloride	lb.	.77
Mica—N. Y. gr'nd, coarse	"	.03@.04
Fine	"	.04@.05
Sheets, N. C., 2x4 in	"	.30
3x3 in	"	.80
3x4 in	"	1.50
4x4 in	"	2.00
6x6 in	"	3.00
Scrap, f.o.b., Dillsboro, N. C.	sh. ton.	25.00
Mineral Wool—		
Slag, ordinary	sh. ton	19.00
Selected	"	25.00
Rock, ordinary	"	32.00
Selected	"	40.00
Monazite—92%	"	140.00
Nickel—Oxide, No. 1	lb.	1.00
No. 2	"	.60
Sulphate	"	.20@.21
Oils—Black, reduced 29 gr.:		
20@30 cold test	gal.	.09¾@.10¼
15, cold test	"	.10¾@.11¼
Zero	"	.11¾@.12¾
Summer	"	.09¼@.09¾
Cylinder, dark steam ref	"	.08¾@.10¾
Dark filtered	"	.11¼@.15¾
Light filtered	"	.14¾@.17¾
Extra cold test	"	.21¾@.26¾
Gasoline, 86°@90°	"	.14@.18
Naphtha, crude 68@72°	bbl.	9.05
"Stove"	gal.	.12
Linseed, domestic raw	"	.80@.82
Boiled	"	.84
Calcutta, raw	"	.85
Ozokerite	lb.	.11½
Paints and Colors—		
Chrome green, common	"	.05
Pure	"	.16
Yellow, common	"	.10¼
Best	"	.25
Lampblack, com'l	"	.04½
Refined	"	.07
Litharge, Am. powd.	"	.05¼
English flake	"	.08
Glassmakers	"	.07½
Metallic, brown	sh. ton	19.00
Red	"	16.00
Ocher, Am. common	"	9.25@10.00
Best	"	21.25@25.00
Dutch, washed	lb.	.04¾
French, washed	"	.01¼@.02
Orange mineral, Am.	"	.07¾@.08
Foreign, as to make	"	.08¼@.11¼
Paris green, pure, bulk	"	.12
Red lead, American	"	.05½
Foreign	"	.07¼@.08¼
Shellac, "D. C."	"	.26
Native	"	.14½
Turpentine, spirits	gal.	.35½
Ultramarine, best	lb.	.25
Vermilion, Amer. lead	"	10@.14
Quicksilver, bulk	"	.70
Foreign	"	.80@.85
White lead, Am., dry	"	.04¾@.05
American, in oil	"	.05¾
Foreign, in oil	"	.07¾@.09¾
Whiting, common	100 lbs.	.40
Gilders	"	.45½
Zinc white, Am., ex.dry	lb.	.04⅜@.04⅞
American, red seal	"	.06½
Green seal	"	.07
Foreign, red seal, dry	"	.05⅛@.08⅝
Green seal, dry	"	.07¼@.09⅞
Potash—		
Caustic, ordinary	"	.05¼@.05½
Elect. (90%)	"	.06½
Potassium—		
Bicarbonate cryst	"	.08¼
Powdered or gran	"	.14
Bichromate, Am	"	.08¼
Scotch	"	.08½@.09
Carbonate, hydrated	"	.04¼
Calcined	"	.04
Chromate	"	.35
Cyanide (98@99%)	"	.24@.25
Iodide, bulk	"	2.05
Kainit	lg. ton	9.05
Manure salt, 20%	100 lbs	.66
Double Manure salt, 48@53%	"	1.12
Muriate, 80@85%	"	1.83
95%	"	1.86
Permanganate, pure cr.	lb.	.11@.11¼
Prussiate, yellow	"	.13¼@.13½
Red	"	.37
Silicate	"	.06
Sulphate, 90%	"	2.11
96%	"	2.13
Sulphide, com'l	"	.10
Sylvinit	unit	.36
Quartz—(See Silica).		
Rosin—		
Com. strained (280 lbs.)	bbl.	1.45
Best	"	3.70
Salt—N Y com fine	sh. ton	2.00
N. Y. agricultural	"	1.50
Saltpeter—Crude	100 lbs.	3.37½
Refined	"	4.25
Silica—Best foreign	lg. ton	10 00@11.00
Ground quartz, ord	sh. ton	6.00@8.00
Best	"	12.00@13.00
Lump quartz	"	2.50@4.00
Glass sand	"	2.75
Silicon—Carbide	lb.	.05
Silver—Chloride	oz.	0.65
Nitrate	"	.40
Oxide	"	.85@1.10

	Cust. Meas.	Price.
Slate—Ground, black	sh. ton	$7.50@8.75
Ground, red and olive	"	20.00
Sodium—Acetate, com'l	lb.	.04½
Bichromate	"	.06½
Chlorate, com'l	"	.09¼@.09⅝
Hyposulphite, Am.	100 lbs.	1.75@1.80
German	"	1.95@2.00
Nitrite, 96@98%	lb.	.08
Peroxide	"	.45
Phosphate	"	.02½
Prussiate	"	.11
Silicate, conc	"	.05
com'l	"	.01
Sulphate, com'l	100 lbs.	.70
Gran., puri'd	lb.	.03
Sulphide	"	.01¼
Sulphite crystals	"	.02½
Tungstate, com'l	"	.35
Strontium—Nitrate	"	.07¾@.08
Sulphur—Roll	100 lbs.	1.75
Flour	"	1.80
Flowers, sublimed	"	2.05
Talc—N. C., 1st grade	sh. ton	13.75
N. Y., Fibrous	"	8.00@9.00
French, best	100 lbs.	1.25
Italian, best	"	1.62½
Tar—Regular	bbl.	2.25
Oil barrels	"	4.25
Tin—Bichloride, 50%	lb.	.09½@.10
Crystals	"	.22½@23
Muriate, 36°	"	.09
52°	"	.15
Oxide, white, ch. pure	"	.48
Uranium—Oxide	"	2.25@3.00
Zinc—Metallic, ch. pure	"	.07@.09¾
Carbonate	"	.15
Chloride	"	.05
Dust	"	.05¾@.05¾
Sulphate	"	.02@.02⅛

THE RARE ELEMENTS.

Prices given are at makers' works in Germany, unless otherwise noted.

	Cust. Meas.	Price.
Barium—Amalgam	grm.	$1.19
Electrol	"	5.71
Boron—Amorphous, pure	grm.	.19
Crystals, pure	"	1.43
Nitrate (N. Y.)	lb.	1.50
Cadmium—Sticks	kg.	1.55
Sheets	"	2.83
Granulated	"	1.79
Powder	"	1.19@1.79
Calcium—Elect	grm.	4.28
Tungstate (Scheelite), N. Y.	lb.	.60
Cerium—Fused	grm.	2.02
Nitrate (N. Y.)	lb.	11.00
Chromium—Fused, Elect.	kg.	5.95
Pure powder, 95%	"	1.55
Chem. pure cryst	grm.	.20
Cobalt—(98@99%)	kg.	7.26@9.52
Pure	"	30.94
Didymium—Powd.	grm.	3.81
Fused, Elect.	"	5.47
Nitrate (N. Y.)	lb.	35.00
Erbium	grm.	3.09
Nitrate (N. Y.)	lb.	40.00
Germanium—Powder	grm.	33.32
Fused	"	35.70
Glucinum—Powder	"	5.95
Crystals	"	9.04
Balls, fused	"	35.70
Nitrate (N. Y.)	lb.	20.00
Indium	grm.	3.57
Iridium—Fused	"	1.07
Powder	"	.95
Lanthanum—Powder	"	4.28
Electrol, in balls	"	9.04
Nitrate (N. Y.)	lb.	30.00
Lithium	grm.	2.38
Nitrate (N. Y.)	oz.	.60
Magnesium—Ingot	kg.	6.43
Powdered	"	5.47@7.14
Ribbon	"	9.99
Sheet	"	9.04
Wire	"	9.52
Manganese—Fu'd com'l	"	1.31@1.43
Fused, pure	"	3.81
Molybdenum—Fused pr	grm.	.07
Chem. pure	kg.	17.85
Powder, 95%	"	2.62
Niobium	grm.	3.81
Osmium	"	.95
Palladium—Wire	"	.86
Sponge	"	62
Potassium—In balls	kg.	17.85
Rhodium	grm.	2.38
Rubidium—Pure	"	4.76
Ruthenium—Powder	"	2.38
Rutile—Crude	kg.	.49
Selenium—Com'l powder	"	26 18
Sublimed powder	"	35.70
Sticks	"	28.56
Silicium—Fused, pure	"	14.28
Chem. pure crystals	"	47.60
Amorphous	"	23.80
Strontium—Electrol	grm.	6.19
Tantalium—Pure	"	3.57
Tellurium—Ch. p, sticks.	kg.	107.10
Chem. pure powder	"	83.30
Thallium	"	26.18
Thorium—Nitrate 49@50% (N. Y.)	lb.	5.00
Titanium—Pure	kg.	19.04
Chem. pure	"	47.60
Uranium	"	190.40
Nitrate (N. Y.)	oz.	.25
Vanadium	grm.	1.19
Wolfram—Fused, elect.	kg.	238.00
Powder, 95@98%	"	.95
Chem. pure powder	"	6.43
Yttrium	grm.	3.33
Nitrate (N. Y.)	lb.	40.00
Zirconium—Com'l	kg.	95.20
Nitrate (N. Y.)	lb.	8.00

NOTE.—These quotations are for wholesale lots in New York unless otherwise specified, and are generally subject to the usual trade discounts. Readers of the ENGINEERING AND MINING JOURNAL are requested to report any corrections needed, or to suggest additions which they may consider advisable. See also Market Reviews.